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(54) **COMMUNICATION DEVICE**

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This patent is subject to a terminal disclaimer.

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(56) **References Cited**

U.S. PATENT DOCUMENTS

4,934,773	A	6/1990	Becker
5,173,881	A	12/1992	Sindle
5,272,638	A	12/1993	Martin et al.
5,345,272	A	9/1994	Ersoz et al.
5,353,376	A	10/1994	Oh et al.
5,388,147	A	2/1995	Grimes
5,405,152	A	4/1995	Katanics et al.
5,414,461	A	5/1995	Kishi et al.
5,418,837	A	5/1995	Johansson et al.
5,438,357	A	8/1995	McNelley
5,442,453	A	8/1995	Takagi et al.
5,446,904	A	8/1995	Belt et al.
5,479,476	A	12/1995	Finke-Anlauff
5,530,472	A	6/1996	Bregman et al.
5,539,810	A	7/1996	Kennedy et al.
5,550,754	A	8/1996	McNelley et al.
5,559,554	A	9/1996	Uekane et al.
5,566,073	A	10/1996	Margolin
5,625,675	A	4/1997	Katsumaru et al.
5,629,741	A	5/1997	Hopper

(Continued)

FOREIGN PATENT DOCUMENTS

GB	2386027	A1	9/2003
JP	2196373	A1	8/1990

(Continued)

OTHER PUBLICATIONS

Fehily "Windows XP: Visual QuickStart Guide" published by Peachpit Press in 2003.
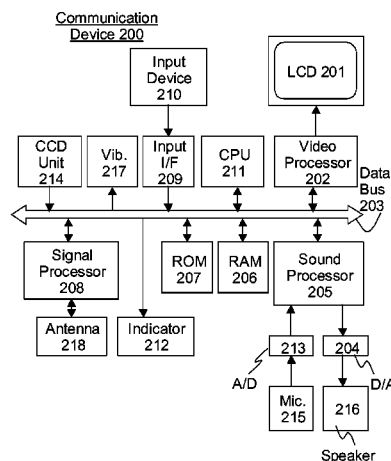
(Continued)

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(57) **ABSTRACT**

The communication device comprising a voice communication implementer, a ringing mode implementer, a silent mode implementer, an answering machine implementer, and a caller's information displaying implementer.

18 Claims, 1 Drawing Sheet

Communication Device 200

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,687,331 A	11/1997	Volk et al.
5,758,280 A	5/1998	Kimura
5,772,586 A	6/1998	Heinonen et al.
5,778,304 A	7/1998	Grube et al.
5,786,846 A	7/1998	Hiroaki
5,796,338 A	8/1998	Mardirossian
5,825,408 A	10/1998	Yuyama et al.
5,844,824 A	12/1998	Newman et al.
5,902,349 A	5/1999	Endo et al.
5,903,706 A	5/1999	Wakabayashi et al.
5,918,180 A	6/1999	Dimino
5,924,040 A	7/1999	Trompower
5,940,139 A	8/1999	Smoot
5,959,661 A	9/1999	Isono
6,009,336 A	12/1999	Harris et al.
6,034,715 A	3/2000	Ishida et al.
6,069,648 A	5/2000	Suso et al.
6,073,034 A	6/2000	Jacobsen et al.
6,081,265 A	6/2000	Nakayama et al.
6,085,112 A	7/2000	Kleinschmidt et al.
6,094,237 A	7/2000	Hashimoto
6,115,597 A	9/2000	Kroll et al.
6,128,594 A	10/2000	Gulli et al.
6,144,848 A	11/2000	Walsh et al.
6,148,212 A	11/2000	Park et al.
6,161,134 A	12/2000	Wang et al.
6,167,283 A	12/2000	Korpela et al.
6,192,343 B1	2/2001	Morgan et al.
6,195,089 B1	2/2001	Chaney et al.
6,198,942 B1	3/2001	Hayashi et al.
6,202,060 B1	3/2001	Tran
6,202,212 B1	3/2001	Sturgeon et al.
6,216,013 B1	4/2001	Moore et al.
6,216,158 B1	4/2001	Luo et al.
6,222,482 B1	4/2001	Gueziec
6,225,944 B1	5/2001	Hayes
6,226,500 B1	5/2001	Nonami
6,241,612 B1	6/2001	Heredia
6,243,039 B1	6/2001	Elliot
6,253,075 B1	6/2001	Beghtol et al.
6,265,988 B1	7/2001	LeMense et al.
6,282,435 B1	8/2001	Wagner et al.
6,285,317 B1	9/2001	Ong
6,285,757 B1	9/2001	Carroll et al.
6,292,666 B1	9/2001	Siddiqui et al.
6,311,077 B1	10/2001	Bien
6,366,651 B1	4/2002	Griffith et al.
6,385,465 B1	5/2002	Yoshioka
6,385,654 B1	5/2002	Tanaka
6,405,033 B1	6/2002	Kennedy, III et al.
6,411,198 B1	6/2002	Hirai et al.
6,421,470 B1	7/2002	Nozaki et al.
6,421,602 B1	7/2002	Bullock et al.
6,438,380 B1	8/2002	Bi et al.
6,442,404 B1	8/2002	Sakajiri
6,445,802 B1	9/2002	Dan
6,487,422 B1	11/2002	Lee
6,507,643 B1	1/2003	Groner
6,510,325 B1	1/2003	Mack, II et al.
6,512,919 B2	1/2003	Ogasawara
6,518,956 B1	2/2003	Sato
6,519,566 B1	2/2003	Boyer et al.
6,526,293 B1	2/2003	Matsuo
6,528,533 B2	3/2003	Lauffer
6,529,742 B1	3/2003	Yang
6,542,750 B2	4/2003	Hendrey et al.
6,549,215 B2	4/2003	Jouppi
6,549,756 B1	4/2003	Engstrom
6,553,309 B2	4/2003	Uchida et al.
6,587,547 B1	7/2003	Zirngibl et al.
6,615,186 B1	9/2003	Kolls
6,618,704 B2	9/2003	Kanevsky et al.
6,630,958 B2	10/2003	Tanaka et al.
6,647,251 B1	11/2003	Siegle et al.
6,650,877 B1	11/2003	Tarbouriech et al.
6,650,894 B1	11/2003	Berstis et al.
6,658,272 B1	12/2003	Lenchik et al.
6,658,461 B1	12/2003	Mazo
6,662,023 B1	12/2003	Helle
6,665,711 B1	12/2003	Boyle et al.
6,668,177 B2	12/2003	Salmimaa et al.
6,678,366 B1	1/2004	Burger et al.
6,681,120 B1	1/2004	Kim
6,687,515 B1	2/2004	Kosaka
6,690,932 B1	2/2004	Barnier et al.
6,694,143 B1	2/2004	Beamish et al.
6,701,148 B1	3/2004	Wilson et al.
6,701,162 B1	3/2004	Everett
6,707,942 B1	3/2004	Cortopassi et al.
6,711,399 B1	3/2004	Granier
6,725,022 B1	4/2004	Clayton et al.
6,728,533 B2	4/2004	Ishii
6,763,226 B1	7/2004	McZeal, Jr.
6,772,174 B1	8/2004	Pettersson
6,775,361 B1	8/2004	Arai et al.
6,779,030 B1	8/2004	Dugan et al.
6,782,412 B2	8/2004	Brophy et al.
6,788,332 B1	9/2004	Cook
6,788,928 B2	9/2004	Kohinata et al.
6,795,715 B1	9/2004	Kubo et al.
6,812,954 B1	11/2004	Priestman et al.
6,813,501 B2	11/2004	Kinnunen et al.
6,819,939 B2	11/2004	Masamura
6,820,055 B2	11/2004	Saindon et al.
6,850,209 B2	2/2005	Mankins et al.
6,865,372 B2	3/2005	Mauney et al.
6,870,828 B1	3/2005	Giordano, III
6,876,379 B1	4/2005	Fisher
6,883,000 B1	4/2005	Gropper
6,888,927 B1	5/2005	Cruickshank et al.
6,891,525 B2	5/2005	Ogoro
6,895,084 B1	5/2005	Saylor et al.
6,895,259 B1	5/2005	Blank nee Keller et al.
6,898,321 B1	5/2005	Knee et al.
6,901,383 B1	5/2005	Ricketts et al.
6,905,414 B2	6/2005	Danieli et al.
6,912,544 B1	6/2005	Weiner
6,922,212 B2	7/2005	Nakakubo et al.
6,937,868 B2	8/2005	Himmel et al.
6,947,728 B2	9/2005	Tagawa et al.
6,954,645 B2	10/2005	Tsai et al.
6,958,675 B2	10/2005	Maeda et al.
6,961,559 B1	11/2005	Chow et al.
6,970,178 B2	11/2005	Tanioka et al.
6,970,703 B2	11/2005	Fuchs et al.
6,973,628 B2	12/2005	Asami
6,992,699 B1	1/2006	Vance et al.
6,993,362 B1	1/2006	Aberg
6,999,757 B2	2/2006	Bates et al.
7,003,598 B2	2/2006	Kavanagh
7,007,239 B1	2/2006	Hawkins et al.
7,012,999 B2	3/2006	Ruckart et al.
7,019,770 B1	3/2006	Katz
7,028,077 B2	4/2006	Toshimitsu et al.
7,030,880 B2	4/2006	Tanioka et al.
7,035,666 B2	4/2006	Silberfenig et al.
7,058,356 B2	6/2006	Slotznick
7,065,525 B1	6/2006	Sasaki et al.
7,076,052 B2	7/2006	Yoshimura
7,081,832 B2	7/2006	Nelson et al.
7,085,578 B2	8/2006	Barclay et al.
7,085,739 B1	8/2006	Winter et al.
7,089,298 B2	8/2006	Nyman et al.
7,106,846 B2	9/2006	Nguyen et al.
7,107,081 B1	9/2006	Fujisaki
7,113,981 B2	9/2006	Slate
7,117,152 B1	10/2006	Mukherji et al.
7,126,951 B2	10/2006	Belcea et al.
7,127,238 B2	10/2006	Vandermeijden et al.
7,127,271 B1	10/2006	Fujisaki
7,130,630 B1	10/2006	Moton, Jr. et al.
7,139,555 B2	11/2006	Apfel
7,142,810 B2	11/2006	Oesterling
7,142,890 B2	11/2006	Irimajiri et al.

(56) **References Cited**

U.S. PATENT DOCUMENTS

7,146,179 B2	12/2006	Parulski et al.
7,148,911 B1	12/2006	Mitsui et al.
7,174,171 B2	2/2007	Jones
7,224,792 B2	5/2007	Fusco
7,224,851 B2	5/2007	Kinjo
7,224,987 B1	5/2007	Bhela et al.
7,231,231 B2	6/2007	Kokko et al.
7,233,781 B2	6/2007	Hunter et al.
7,233,795 B1	6/2007	Ryden
7,240,093 B1	7/2007	Danieli et al.
7,245,293 B2	7/2007	Hoshino et al.
7,251,255 B1	7/2007	Young
7,254,408 B2	8/2007	Kim
7,260,416 B2	8/2007	Shippee
7,266,186 B1	9/2007	Henderson
7,277,711 B2	10/2007	Nyu
7,321,783 B2	1/2008	Kim
7,324,823 B1	1/2008	Rosen et al.
7,346,373 B2	3/2008	Kim
7,372,447 B1	5/2008	Jacobsen et al.
7,383,067 B2	6/2008	Phillips et al.
7,418,346 B2	8/2008	Breed et al.
7,433,845 B1	10/2008	Flitcroft et al.
7,444,168 B2	10/2008	Nakagawa et al.
7,450,709 B2	11/2008	Gonzalez et al.
7,451,084 B2	11/2008	Funakura
7,532,879 B1	5/2009	Fujisaki
7,551,899 B1	6/2009	Nicolas et al.
7,642,929 B1	1/2010	Pinkus et al.
7,643,037 B1	1/2010	Langmacher et al.
7,657,252 B2	2/2010	Futami
7,686,693 B2	3/2010	Danieli et al.
7,707,592 B2	4/2010	Wesslen et al.
7,707,602 B2	4/2010	Cragun et al.
7,725,077 B2	5/2010	Jung et al.
7,752,188 B2	7/2010	Lagerstedt et al.
7,769,364 B2	8/2010	Logan et al.
7,787,857 B2	8/2010	Peterman
7,787,887 B2	8/2010	Gupta et al.
7,853,295 B1	12/2010	Fujisaki
7,853,297 B1	12/2010	Fujisaki
7,865,567 B1	1/2011	Hendricks et al.
7,873,349 B1	1/2011	Smith et al.
7,890,089 B1	2/2011	Fujisaki
7,899,410 B2	3/2011	Rakshani et al.
7,922,086 B2	4/2011	Jung et al.
7,941,141 B2	5/2011	Shoykhet et al.
7,953,439 B2	5/2011	Rofougaran
7,970,414 B1	6/2011	Werden et al.
8,099,108 B2	1/2012	Camp et al.
8,117,266 B2	2/2012	Moore
8,126,400 B2	2/2012	Jung et al.
8,145,040 B2	3/2012	Toyoshima
8,175,655 B1	5/2012	Fujisaki
8,208,954 B1	6/2012	Fujisaki
8,229,504 B1	7/2012	Fujisaki
8,311,578 B1	11/2012	Fujisaki
8,433,300 B1	4/2013	Fujisaki
8,433,364 B1	4/2013	Fujisaki
8,472,935 B1	6/2013	Fujisaki
8,559,983 B1	10/2013	Fujisaki
8,620,384 B1	12/2013	Fujisaki
8,747,222 B2	6/2014	Yamashita
8,755,838 B1	6/2014	Fujisaki
8,825,026 B1	9/2014	Fujisaki
8,825,090 B1	9/2014	Fujisaki
2001/0005826 A1	6/2001	Shibuya
2001/0011293 A1	8/2001	Murakami et al.
2001/0028350 A1	10/2001	Matsuoka et al.
2001/0029425 A1	10/2001	Myr
2001/0035829 A1	11/2001	Yu et al.
2001/0048364 A1	12/2001	Kalthoff et al.
2001/0049470 A1	12/2001	Mault et al.
2002/0002044 A1	1/2002	Naruse et al.
2002/0002705 A1	1/2002	Byrnes et al.
2002/0006804 A1	1/2002	Mukai et al.
2002/0009978 A1	1/2002	Dukach et al.
2002/0016724 A1	2/2002	Yang et al.
2002/0019225 A1	2/2002	Miyashita
2002/0026348 A1	2/2002	Fowler et al.
2002/0028690 A1	3/2002	McKenna et al.
2002/0031120 A1	3/2002	Rakib
2002/0034292 A1	3/2002	Tuoriniemi et al.
2002/0036231 A1	3/2002	Monaghan et al.
2002/0037738 A1	3/2002	Wycherley et al.
2002/0038219 A1	3/2002	Yanay et al.
2002/0039914 A1	4/2002	Hama et al.
2002/0041262 A1	4/2002	Mukai et al.
2002/0047787 A1	4/2002	Mikkola et al.
2002/0049630 A1	4/2002	Furuta et al.
2002/0052754 A1	5/2002	Joyce et al.
2002/0054068 A1	5/2002	Ellis et al.
2002/0055872 A1	5/2002	LaBrie et al.
2002/0061767 A1	5/2002	Sladen et al.
2002/0065037 A1	5/2002	Messina et al.
2002/0066115 A1	5/2002	Wendelrup
2002/0068558 A1	6/2002	Janik
2002/0068585 A1	6/2002	Chan et al.
2002/0068599 A1	6/2002	Rodriguez et al.
2002/0072395 A1	6/2002	Miramontes
2002/0077808 A1	6/2002	Liu et al.
2002/0080163 A1	6/2002	Morey
2002/0085700 A1	7/2002	Metcalf
2002/0094806 A1	7/2002	Kamimura
2002/0097984 A1	7/2002	Abecassis
2002/0098857 A1	7/2002	Ishii
2002/0102960 A1	8/2002	Lechner
2002/0103872 A1	8/2002	Watanabe
2002/0104095 A1	8/2002	Nguyen et al.
2002/0110246 A1	8/2002	Gosior et al.
2002/0115469 A1	8/2002	Rekimoto et al.
2002/0120718 A1	8/2002	Lee
2002/0123336 A1	9/2002	Kamada
2002/0127997 A1	9/2002	Karlstedt et al.
2002/0128000 A1	9/2002	do Nascimento
2002/0133342 A1	9/2002	McKenna
2002/0137470 A1	9/2002	Baron et al.
2002/0137503 A1	9/2002	Roderique
2002/0137526 A1	9/2002	Shinohara
2002/0141086 A1	10/2002	Lang et al.
2002/0142763 A1	10/2002	Kolsky
2002/0147645 A1	10/2002	Alao et al.
2002/0151326 A1	10/2002	Awada et al.
2002/0151327 A1	10/2002	Levitt
2002/0160724 A1	10/2002	Arai et al.
2002/0164975 A1	11/2002	Lu
2002/0164996 A1	11/2002	Dorenbosch
2002/0165850 A1	11/2002	Roberts et al.
2002/0173344 A1	11/2002	Cupps et al.
2002/0177407 A1	11/2002	Mitsumoto
2002/0178225 A1	11/2002	Madenberg et al.
2002/0183045 A1	12/2002	Emmerson et al.
2002/0183098 A1	12/2002	Lee et al.
2002/0191951 A1	12/2002	Sodeyama et al.
2002/0198017 A1	12/2002	Babasaki et al.
2002/0198813 A1	12/2002	Patterson, Jr. et al.
2002/0198936 A1	12/2002	McIntyre et al.
2003/0003967 A1	1/2003	Ito
2003/0005056 A1	1/2003	Yamamoto et al.
2003/0006879 A1	1/2003	Kang et al.
2003/0007556 A1	1/2003	Oura et al.
2003/0013483 A1	1/2003	Ausems et al.
2003/0014286 A1	1/2003	Cappellini
2003/0016189 A1	1/2003	Abe et al.
2003/0017857 A1	1/2003	Kitson et al.
2003/0018744 A1	1/2003	Johanson et al.
2003/0025788 A1	2/2003	Beardsley
2003/0032406 A1	2/2003	Minear et al.
2003/0037265 A1	2/2003	Sameshima et al.
2003/0038800 A1	2/2003	Kawahara
2003/0038893 A1	2/2003	Rajamaki et al.
2003/0045311 A1	3/2003	Larikka et al.
2003/0045329 A1	3/2003	Kinoshita
2003/0052964 A1	3/2003	Priestman et al.

(56) **References Cited**

U.S. PATENT DOCUMENTS

2003/0055994	A1	3/2003	Herrmann et al.
2003/0061606	A1	3/2003	Hartwig et al.
2003/0063580	A1	4/2003	Pond
2003/0063732	A1	4/2003	Mcknight
2003/0065784	A1	4/2003	Herrod
2003/0065805	A1	4/2003	Barnes, Jr.
2003/0069693	A1	4/2003	Snapp et al.
2003/0070162	A1	4/2003	Oshima et al.
2003/0073432	A1	4/2003	Meade, II
2003/0074398	A1	4/2003	Matsuo
2003/0083055	A1	5/2003	Riordan et al.
2003/0084104	A1	5/2003	Salem et al.
2003/0084121	A1	5/2003	De Boor et al.
2003/0093503	A1	5/2003	Yamaki et al.
2003/0093790	A1	5/2003	Logan et al.
2003/0099367	A1	5/2003	Okamura
2003/0107580	A1	6/2003	Egawa et al.
2003/0110450	A1	6/2003	Sakai
2003/0117376	A1	6/2003	Ghulam
2003/0119479	A1	6/2003	Arima et al.
2003/0119485	A1	6/2003	Ogasawara
2003/0119562	A1	6/2003	Kokubo
2003/0120784	A1	6/2003	Johnson et al.
2003/0125008	A1	7/2003	Shimamura
2003/0132928	A1	7/2003	Kori
2003/0135563	A1	7/2003	Bodin et al.
2003/0137970	A1	7/2003	Odman
2003/0144024	A1	7/2003	Luo
2003/0148772	A1	8/2003	Ben-Ari
2003/0149662	A1	8/2003	Shore
2003/0153355	A1	8/2003	Warren
2003/0156208	A1	8/2003	Obradovich
2003/0166399	A1	9/2003	Tokkonen et al.
2003/0169329	A1	9/2003	Parker et al.
2003/0201982	A1	10/2003	Iesaka
2003/0204562	A1	10/2003	Hwang
2003/0208541	A1	11/2003	Musa
2003/0220835	A1	11/2003	Barnes, Jr.
2003/0222762	A1	12/2003	Beigl et al.
2003/0222982	A1	12/2003	Hamdan et al.
2003/0223554	A1	12/2003	Zhang
2003/0224760	A1	12/2003	Day
2003/0227570	A1	12/2003	Kim et al.
2003/0229900	A1	12/2003	Reisman
2003/0236709	A1	12/2003	Hendra et al.
2003/0236866	A1	12/2003	Light
2004/0003307	A1	1/2004	Tsuji
2004/0004616	A1	1/2004	Konya et al.
2004/0027369	A1	2/2004	Kellock et al.
2004/0029640	A1	2/2004	Masuyama et al.
2004/0033795	A1	2/2004	Walsh et al.
2004/0034692	A1	2/2004	Eguchi et al.
2004/0052504	A1	3/2004	Yamada et al.
2004/0060061	A1	3/2004	Parker
2004/0067751	A1*	4/2004	Vandermeijden et al. . 455/414.1
2004/0068399	A1	4/2004	Ding
2004/0072595	A1	4/2004	Anson et al.
2004/0082321	A1	4/2004	Kontianinen
2004/0087326	A1	5/2004	Dunko et al.
2004/0092255	A1	5/2004	Ji et al.
2004/0103303	A1	5/2004	Yamauchi et al.
2004/0107072	A1	6/2004	Dietrich et al.
2004/0114732	A1	6/2004	Choe et al.
2004/0117108	A1	6/2004	Nemeth
2004/0128359	A1	7/2004	Horvitz et al.
2004/0137893	A1	7/2004	Muthuswamy et al.
2004/0139208	A1	7/2004	Tuli
2004/0142678	A1	7/2004	Krasner
2004/0150725	A1	8/2004	Taguchi
2004/0157664	A1	8/2004	Link
2004/0166832	A1	8/2004	Portman et al.
2004/0166879	A1	8/2004	Meadows et al.
2004/0174863	A1	9/2004	Caspi et al.
2004/0183937	A1	9/2004	Viinikanoja et al.
2004/0185865	A1	9/2004	Maanoja
2004/0189827	A1	9/2004	Kim et al.
2004/0198374	A1	10/2004	Bajikar
2004/0203520	A1	10/2004	Schirtzinger et al.
2004/0203904	A1	10/2004	Gwon et al.
2004/0203909	A1	10/2004	Koster
2004/0204018	A1	10/2004	Kuo
2004/0204035	A1	10/2004	Raghuram et al.
2004/0204126	A1	10/2004	Reyes et al.
2004/0216037	A1	10/2004	Hishida et al.
2004/0218738	A1*	11/2004	Arai et al. 379/93.17
2004/0219951	A1	11/2004	Holder
2004/0223049	A1	11/2004	Taniguchi et al.
2004/0235520	A1	11/2004	Cadiz et al.
2004/0242240	A1	12/2004	Lin
2004/0248586	A1	12/2004	Patel et al.
2004/0252197	A1	12/2004	Fraley et al.
2004/0259537	A1	12/2004	Ackley
2004/0264662	A1*	12/2004	Silver 379/142.06
2004/0266418	A1	12/2004	Kotzin
2004/0267628	A1	12/2004	Stillman
2005/0004749	A1	1/2005	Park
2005/0032527	A1	2/2005	Sheha et al.
2005/0036509	A1	2/2005	Acharya et al.
2005/0046584	A1	3/2005	Breed
2005/0048987	A1	3/2005	Glass
2005/0070257	A1	3/2005	Saarinen et al.
2005/0075097	A1	4/2005	Lehikoinen et al.
2005/0090768	A1	4/2005	Brattesani et al.
2005/0113080	A1	5/2005	Nishimura
2005/0113113	A1	5/2005	Reed
2005/0120225	A1	6/2005	Kirsch et al.
2005/0136949	A1	6/2005	Barnes
2005/0144560	A1	6/2005	Gruen et al.
2005/0151877	A1	7/2005	Fisher
2005/0159189	A1	7/2005	Iyer
2005/0163289	A1	7/2005	Caspi et al.
2005/0164684	A1	7/2005	Chen et al.
2005/0165871	A1	7/2005	Barrs, II et al.
2005/0166242	A1	7/2005	Matsumoto et al.
2005/0186954	A1	8/2005	Kenney
2005/0192030	A1	9/2005	Asthana et al.
2005/0207555	A1	9/2005	Lee et al.
2005/0227731	A1	10/2005	Kall
2005/0235312	A1	10/2005	Karaoguz et al.
2005/0261945	A1	11/2005	Mougin et al.
2005/0272504	A1	12/2005	Eguchi et al.
2005/0282582	A1	12/2005	Slotznick et al.
2006/0003813	A1	1/2006	Seligmann et al.
2006/0031407	A1	2/2006	Dispensa et al.
2006/0033809	A1	2/2006	Farley
2006/0035628	A1	2/2006	Miller et al.
2006/0041923	A1	2/2006	McQuaide, Jr.
2006/0052100	A1	3/2006	Almgren
2006/0059038	A1	3/2006	Iuchi et al.
2006/0084413	A1	4/2006	Myoung
2006/0114100	A1	6/2006	Ghabra et al.
2006/0121986	A1	6/2006	Pelkey et al.
2006/0126284	A1	6/2006	Moscovitch
2006/0133590	A1	6/2006	Jiang
2006/0140173	A1	6/2006	Hoover
2006/0140387	A1	6/2006	Boldt
2006/0143655	A1	6/2006	Ellis et al.
2006/0166650	A1	7/2006	Berger et al.
2006/0167677	A1	7/2006	Bitzer
2006/0206913	A1	9/2006	Jerding et al.
2006/0229114	A2	10/2006	Kim
2006/0234693	A1	10/2006	Isidore et al.
2006/0234758	A1	10/2006	Parupudi et al.
2006/0258396	A1	11/2006	Matsuoka
2006/0262911	A1	11/2006	Chin et al.
2006/0276172	A1	12/2006	Rydgren et al.
2006/0284732	A1	12/2006	Brock-Fisher
2007/0005809	A1	1/2007	Kobayashi et al.
2007/0015550	A1	1/2007	Kayanuma
2007/0032255	A1*	2/2007	Koo et al. 455/512
2007/0037605	A1	2/2007	Logan
2007/0050832	A1	3/2007	Wright et al.
2007/0061845	A1	3/2007	Barnes
2007/0097879	A1	5/2007	Bleckert et al.

(56) **References Cited**

U.S. PATENT DOCUMENTS

2007/0099703 A1	5/2007	Terebilo	
2007/0109262 A1	5/2007	Oshima et al.	
2007/0135145 A1*	6/2007	Lee et al.	455/466
2007/0135150 A1	6/2007	Ushiki et al.	
2007/0142047 A1	6/2007	Heeschen et al.	
2007/0190944 A1	8/2007	Doan et al.	
2007/0191029 A1	8/2007	Zarem et al.	
2007/0204014 A1	8/2007	Greer et al.	
2007/0216760 A1	9/2007	Kondo et al.	
2007/0218891 A1	9/2007	Cox	
2007/0262848 A1	11/2007	Berstis et al.	
2007/0293240 A1	12/2007	Drennan et al.	
2008/0006762 A1*	1/2008	Fadell et al.	250/201.1
2008/0014917 A1	1/2008	Rhoads et al.	
2008/0016534 A1	1/2008	Ortiz et al.	
2008/0039125 A1*	2/2008	Fan et al.	455/500
2008/0058005 A1	3/2008	Zicker et al.	
2008/0070561 A1	3/2008	Keum et al.	
2008/0070588 A1	3/2008	Morin	
2008/0082930 A1	4/2008	Omernick et al.	
2008/0104544 A1	5/2008	Collins et al.	
2008/0109840 A1	5/2008	Walter et al.	
2008/0140686 A1*	6/2008	Hong et al.	707/100
2008/0146272 A1	6/2008	Rao et al.	
2008/0151696 A1	6/2008	Giroud et al.	
2008/0172173 A1	7/2008	Chang et al.	
2008/0176545 A1	7/2008	Dicke et al.	
2008/0242271 A1	10/2008	Schmidt et al.	
2008/0242283 A1	10/2008	Ruckart	
2008/0254811 A1	10/2008	Stewart	
2008/0299989 A1	12/2008	King et al.	
2009/0017812 A1	1/2009	Chan et al.	
2009/0047972 A1	2/2009	Neeraj	
2009/0111486 A1	4/2009	Burstrom	
2009/0124243 A1	5/2009	Routley et al.	
2009/0150807 A1	6/2009	George et al.	
2009/0153490 A1	6/2009	Nymark et al.	
2009/0186628 A1	7/2009	Yonker et al.	
2009/0221330 A1	9/2009	Tomimori	
2009/0290369 A1	11/2009	Schofield et al.	
2009/0319947 A1	12/2009	Wang et al.	
2010/0030557 A1*	2/2010	Molloy et al.	704/235

2010/0062740 A1	3/2010	Ellis et al.	
2010/0079267 A1	4/2010	Lin	
2010/0145700 A1	6/2010	Kennewick et al.	
2012/0059545 A1	3/2012	Furuno et al.	
2012/0064874 A1	3/2012	Pierce et al.	
2013/0298059 A1	11/2013	Raskin	
2015/0018091 A1	1/2015	Suzuki et al.	

FOREIGN PATENT DOCUMENTS

JP	H11/195137 A1	7/1999
JP	2002/252691 A1	9/2002
JP	2003/078977 A1	3/2003
JP	2003/228726 A1	8/2003
JP	2003/263656 A1	9/2003
JP	2005/216149 A1	8/2005
WO	03001457 A1	1/2003
WO	03096660 A1	11/2003

OTHER PUBLICATIONS

Casio, "Pocket PC User's Guide" published on Feb. 3, 2000.
Audiovox, "Pocket PC Phone User Manual" published on Mar. 19, 2004.
Palm, "Using your Treo" published in Feb. 2004.
Palm, "Palm Treo 600 Support Knowledge Library, Solution ID 29492" published in Jan. 2004.
Dataviz, "Documents to Go included on Treo 600 Smartphone from palmOne" published in Nov. 2003.
Palm, "Treo 600 smartphone" published in 2003.
FCC's wireless Enhanced 911 (E911) rules, Phase I and Phase II.
HI Corporation's company history (http://www.hicorp.co.jp/english/corporate/history.html) Copyright notice on the web: (c) 2007-2011 HI Corporation. All Rights Reserved.
HI Corporation to Offer 3D Graphics to Motorola Mobile Phone Platform Customers (http://www.wirelessdevnet.com/news/2003/203/news7.html) Published on the web on: Jul. 21, 2003.
Development of NTT docomo Mova N504i—NEC Gi-Ho (Technology Magazine) vol. 56 No. May 2003, p. 144 Published in: May 2003.
Winners of Tokyo Venture Technology Grand Prize in 2000-2009 (http://www.sangyo-rodo.metro.tokyo.jp/shoko/sogyo/venture/2000-2009winners.pdf) Published in: 2000-2009.

* cited by examiner

Communication
Device 200

| Input Device 210 | | LCD 201 |

| CCD Unit 214 | Vib. 217 | Input I/F 209 | CPU 211 | Video Processor 202 |

Data Bus 203

| Signal Processor 208 | | ROM 207 | RAM 206 | Sound Processor 205 |

| Antenna 218 | Indicator 212 |

| 213 | 204 |

A/D   D/A

| Mic. 215 | 216 |

Speaker
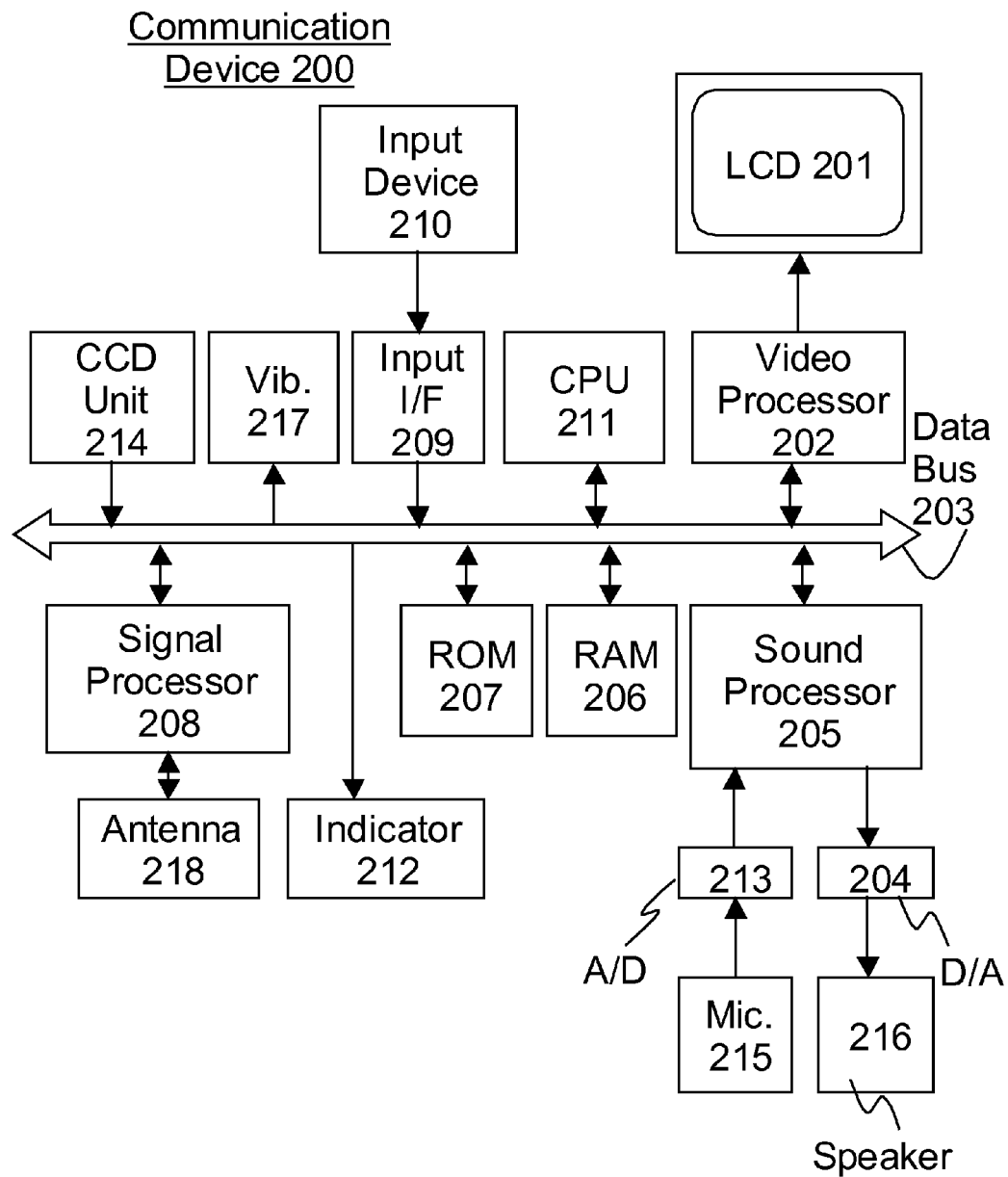
COMMUNICATION DEVICE

CROSS REFERENCE TO RELATED APPLICATIONS

This application is a continuation of U.S. Ser. No. 11/844,363 filed 2007 Aug. 24, which is hereby incorporated herein by reference in its entirety.

BACKGROUND OF INVENTION

The invention relates to communication device and more particularly to the communication device which is capable to communicate with another communication device in a wireless fashion.

U.S. Patent Publication No. 20050075096 is introduced as prior art of the present invention of which the summary is the following: "Mobile phone applets with are downloadable on a J2ME and Symbian platform. The core function of the applet is to utilize a mobile device's calendar with respect to the date and time to control when the phone can and can not ring. Based on the selected applet date and timings are automatically or manually entered into the phone which enable switching the phone's silent mode on and off at a predetermined date and time for a selected duration of time. Additionally the user can use the applet to toggle between profiles on a mobile device." However, this prior art does not disclose the communication device comprising a voice communication implementer, a ringing mode implementer, a silent mode implementer, an answering machine implementer, and a caller's information displaying implementer.

For the avoidance of doubt, the number of the prior arts introduced herein (and/or in IDS) may be of a large one, however, applicant has no intent to hide the more relevant prior art(s) in the less relevant ones.

SUMMARY OF INVENTION

It is an object of the present invention to provide a device capable to implement a plurality of functions.

It is another object of the present invention to provide merchandise to merchants attractive to the customers in the U.S.

It is another object of the present invention to provide mobility to the users of communication device.

It is another object of the present invention to provide more convenience to the customers in the U.S.

It is another object of the present invention to provide more convenience to the users of communication device or any tangible thing in which the communication device is fixedly or detachably (i.e., removably) installed.

It is another object of the present invention to overcome the shortcomings associated with the foregoing prior arts.

It is another object of the present invention to provide a device capable to implement a plurality of functions.

The present invention introduces the communication device comprising a voice communication implementer, a ringing mode implementer, a silent mode implementer, an answering machine implementer, and a caller's information displaying implementer.

BRIEF DESCRIPTION OF DRAWINGS

The above and other aspects, features, and advantages of the invention will be better understood by reading the following more particular description of the invention, presented in conjunction with the following drawing, wherein:

FIG. 1 is a block diagram illustrating an exemplary embodiment of the present invention.

DETAILED DESCRIPTION

The following description is of the best presently contemplated mode of carrying out the present invention. This description is not to be taken in a limiting sense but is made merely for the purpose of describing the general principles of the invention. For example, each description of random access memory in this specification illustrate(s) only one function or mode in order to avoid complexity in its explanation, however, such description does not mean that only one function or mode can be implemented at a time. In other words, more than one function or mode can be implemented simultaneously by way of utilizing the same random access memory. In addition, the figure number is cited after the elements in parenthesis in a manner for example 'RAM 206 (FIG. 1)'. It is done so merely to assist the readers to have a better understanding of this specification, and must not be used to limit the scope of the claims in any manner since the figure numbers cited are not exclusive. There are only few data stored in each storage area described in this specification. This is done so merely to simplify the explanation and, thereby, to enable the reader of this specification to understand the content of each function with less confusion. Therefore, more than few data (hundreds and thousands of data, if necessary) of the same kind, not to mention, are preferred to be stored in each storage area to fully implement each function described herein. The scope of the invention should be determined by referencing the appended claims.

FIG. 1 is a simplified block diagram of the Communication Device 200 utilized in the present invention. Referring to FIG. 1, Communication Device 200 includes CPU 211 which controls and administers the overall function and operation of Communication Device 200. CPU 211 uses RAM 206 to temporarily store data and/or to perform calculation to perform its function, and to implement the present invention, modes, functions, and systems explained hereinafter. Video Processor 202 generates analog and/or digital video signals which are displayed on LCD 201. ROM 207 stores the data and programs which are essential to operate Communication Device 200. Wireless signals are received by Antenna 218 and processed by Signal Processor 208. Input signals are input by Input Device 210, such as a dial pad, a joystick, and/or a keypad, and the signals are transferred via Input Interface 209 and Data Bus 203 to CPU 211. Indicator 212 is an LED lamp which is designed to output different colors (e.g., red, blue, green, etc). Analog audio data is input to Microphone 215. A/D 213 converts the analog audio data into a digital format. Speaker 216 outputs analog audio data which is converted into an analog format from digital format by D/A 204. Sound Processor 205 produces digital audio signals that are transferred to D/A 204 and also processes the digital audio signals transferred from A/D 213. CCD Unit 214 captures video image which is stored in RAM 206 in a digital format. Vibrator 217 vibrates the entire device by the command from CPU 211.

As another embodiment, LCD 201 or LCD 201/Video Processor 202 may be separated from the other elements described in FIG. 1, and be connected in a wireless fashion to be wearable and/or head-mountable.

When Communication Device 200 is in the voice communication mode, the analog audio data input to Microphone 215 is converted to a digital format by A/D 213 and transmitted to another device via Antenna 218 in a wireless fashion after being processed by Signal Processor 208, and the wire-

less signal representing audio data which is received via Antenna **218** is output from Speaker **216** after being processed by Signal Processor **208** and converted to analog signal by D/A **204**. For the avoidance of doubt, the definition of Communication Device **200** in this specification includes so-called 'PDA'. The definition of Communication Device **200** also includes in this specification any device which is mobile and/or portable and which is capable to send and/or receive audio data, text data, image data, video data, and/or other types of data in a wireless fashion via Antenna **218**. The definition of Communication Device **200** further includes any micro device embedded or installed into devices and equipments (e.g., VCR, TV, tape recorder, heater, air conditioner, fan, clock, micro wave oven, dish washer, refrigerator, oven, washing machine, dryer, door, window, automobile, motorcycle, and modem) to remotely control these devices and equipments. The size of Communication Device **200** is irrelevant. Communication Device **200** may be installed in houses, buildings, bridges, boats, ships, submarines, airplanes, and spaceships, and firmly fixed therein.

This paragraph illustrate(s) the elements of Communication Device **200**. The elements of Communication Device **200** described in this Paragraph [0024] is identical to the ones described in FIG. **1**, except Communication Device **200** has new element, i.e., LED **219**. Here, LED **219** receives infra red signals from other wireless devices, which are transferred to CPU **211** via Data Bus **203**. LED **219** also sends infra red signals in a wireless fashion which are composed by CPU **211** and transferred via Data Bus **203**. As the second embodiment, LED **219** may be connected to Signal Processor **208**. Here, LED **219** transfers the received infra red signals to Signal Processor **208**, and Signal Processor **208** processes and converts the signals to a CPU readable format which are transferred to CPU **211** via Data Bus **203**. The data produced by CPU **211** are processed by Signal Processor **208** and transferred to another device via LED **219** in a wireless fashion. The task of LED **219** is as same as that of Antenna **218** described in FIG. **1** except that LED **219** utilizes infra red signals for implementing wireless communication in the second embodiment. For the avoidance of doubt, the reference to FIG. **1** (e.g., referring to FIG. **1** in parenthesis) automatically refers to this paragraph in this specification.

This paragraph illustrate(s) the data stored in Host H. In the present embodiment, Host H includes Host Information Storage Area H00a which stores various types of data to assist and/or co-operate with Communication Device **200** to implement all modes, functions, and systems described in this specification. As another embodiment, Host H may be composed of a plurality of computers, i.e., one master computer and a plurality of slave computers, wherein the master computer is connected to the plurality of slave computers. As another embodiment, Host H may also be composed of a plurality of master computers by way of utilizing peer-to-peer connection.

<<Voice Recognition System>>

Communication Device **200** (FIG. **1**) has the function to operate the device by the user's voice or convert the user's voice into a text format (i.e., the voice recognition). The voice recognition function can be performed in terms of software by using Area **261**, the voice recognition working area, of RAM **206** (FIG. **1**) which is specifically allocated to perform such function, or can also be performed in terms of hardware circuit where such space is specifically allocated in Area **282** of Sound Processor **205** (FIG. **1**) for the voice recognition system.

This paragraph illustrates how the voice recognition function is activated. CPU **211** (FIG. **1**) periodically checks the

input status of Input Device **210** (FIG. **1**) (S1). If CPU **211** detects a specific signal input from Input Device **210** (S2) the voice recognition system is activated. As another embodiment, the voice recognition system can also be activated by entering predetermined phrase, such as 'start voice recognition system' via Microphone **215** (FIG. **1**).

<<Voice Recognition—Dialing/Auto-Off During Call Function>>

This paragraph illustrates the operation of the voice recognition in the present invention. Once the voice recognition system is activated (S1) the analog audio data is input from Microphone **215** (FIG. **1**) (S2). The analog audio data is converted into digital data by A/D **213** (FIG. **1**) (S3). The digital audio data is processed by Sound Processor **205** (FIG. **1**) to retrieve the text and numeric information therefrom (S4). Then the numeric information is retrieved (S5) and displayed on LCD **201** (FIG. **1**) (S6). If the retrieved numeric information is not correct (S7), the user can input the correct numeric information manually by using Input Device **210** (FIG. **1**) (S8). Once the sequence of inputting the numeric information is completed and after the confirmation process is over (S9), the entire numeric information is displayed on LCD **201** and the sound is output from Speaker **216** under control of CPU **211** (S10). If the numeric information is correct (S11), Communication Device **200** (FIG. **1**) initiates the dialing process by utilizing the numeric information (S12). The dialing process continues until Communication Device **200** is connected to another device (S13). Once CPU **211** detects that the line is connected it automatically deactivates the voice recognition system (S14).

CPU **211** (FIG. **1**) checks the status of Communication Device **200** periodically (S1) and remains the voice recognition system offline during call (S2). If the connection is severed, i.e., user hangs up, then CPU **211** reactivates the voice recognition system (S3).

<<Voice Recognition Tag Function>>

The following paragraphs describe the method of inputting the numeric information in a convenient manner.

In this embodiment, RAM **206** includes Table #1 and Table #2. Audio information #1 corresponds to tag 'Scott.' Namely audio information, such as wave data, which represents the sound of 'Scott' (sounds like 'S-ko-t') is registered in Table #1, which corresponds to tag 'Scott'. In the same manner audio information #2 corresponds to tag 'Carol'; audio information #3 corresponds to tag 'Peter'; audio information #4 corresponds to tag 'Amy'; and audio information #5 corresponds to tag 'Brian.' Tag 'Scott' corresponds to numeric information '(916) 411-2526'; tag 'Carol' corresponds to numeric information '(418) 675-6566'; tag 'Peter' corresponds to numeric information '(220) 890-1567'; tag 'Amy' corresponds to numeric information '(615) 125-3411'; and tag 'Brian' corresponds to numeric information '(042) 645-2097.' Once the audio data is processed as described in S4 hereinbefore, CPU **211** scans Table #1 (S1). If the retrieved audio data matches with one of the audio information registered in Table #1 (S2), CPU **211** scans Table #2 (S3) and retrieves the corresponding numeric information from Table #2 (S4).

This paragraph illustrates another embodiment of the present invention. Here, RAM **206** includes Table #A instead of Table #1 and Table #2 described above. In this embodiment, audio info #1 (i.e., wave data which represents the sound of 'Scot') directly corresponds to numeric information '(916) 411-2526.' In the same manner audio info #2 corresponds to numeric information '(410) 675-6566; audio info #3 corresponds to numeric information'(220) 890-1567; audio info #4 corresponds to numeric information '(615)

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125-3411'; and audio info #5 corresponds to numeric information '(042) 645-2097.' Once the audio data is processed as described in S4 hereinbefore, CPU 211 scans Table #A (S1). If the retrieved audio data matches with one of the audio information registered in Table #A (S2), it retrieves the corresponding numeric information therefrom (S3).

As another embodiment, RAM 206 may contain only Table #2 and tag can be retrieved from the voice recognition system explained hereinbefore. Namely, once the audio data is processed by CPU 211 (FIG. 1) as described in S4 hereinbefore and retrieves the text data therefrom and detects one of the tags registered in Table #2 (e.g., 'Scot'), CPU 211 retrieves the corresponding numeric information (e.g., '(916) 411-2526') from the same table.

<<Voice Recognition Noise Filtering Function>>

The following paragraphs describe the method of minimizing the undesired effect of the background noise when utilizing the voice recognition system.

In this embodiment, RAM 206 (FIG. 1) includes Area 255 and Area 256. Sound audio data which represents background noise is stored in Area 255, and sound audio data which represents the beep, ringing sound and other sounds which are emitted from the Communication Device 200 are stored in Area 256.

This paragraph describes the method to utilize the data stored in Area 255 and Area 256 described hereinbefore. When the voice recognition system is activated as described hereinbefore, the analog audio data is input from Microphone 215 (FIG. 1) (S1). The analog audio data is converted into digital data by A/D 213 (FIG. 1) (S2). The digital audio data is processed by Sound Processor 205 (FIG. 1) (S3) and compared to the data stored in Area 255 and Area 256 (S4). Such comparison can be done by either Sound Processor 205 or CPU 211 (FIG. 1). If the digital audio data matches to the data stored in Area 255 and/or Area 256, the filtering process is initiated and the matched portion of the digital audio data is deleted as background noise. Such sequence of process is done before retrieving text and numeric information from the digital audio data.

This paragraph describes the method of updating Area 255. When the voice recognition system is activated as described hereinbefore, the analog audio data is input from Microphone 215 (FIG. 1) (S1). The analog audio data is converted into digital data by A/D 213 (FIG. 1) (S2). The digital audio data is processed by Sound Processor 205 (FIG. 1) or CPU 211 (FIG. 1) (S3) and the background noise is captured (S4). CPU 211 (FIG. 1) scans Area 255 and if the captured background noise is not registered in Area 255, it updates the sound audio data stored therein (S5).

This paragraph describes another embodiment of the present invention. CPU 211 (FIG. 1) routinely checks whether the voice recognition system is activated (S1). If the system is activated (S2), the beep, ringing sound, and other sounds which are emitted from Communication Device 200 are automatically turned off in order to minimize the miss recognition process of the voice recognition system (S3).

<<Voice Recognition Auto-Off Function>>

The voice recognition system can be automatically turned off to avoid glitch. When the voice recognition system is activated (S1), CPU 211 (FIG. 1) automatically sets a timer (S2). The value of timer (i.e., the length of time until the system is deactivated) can be set manually by the user. The timer is incremented periodically (S3), and if the incremented time equals to the predetermined value of time as set in S2 (S4), the voice recognition system is automatically deactivated (S5).

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<<Voice Recognition Email Function (1)>>

This paragraph illustrates the first embodiment of the function of typing and sending e-mails by utilizing the voice recognition system. Once the voice recognition system is activated (S1), the analog audio data is input from Microphone 215 (FIG. 1) (S2). The analog audio data is converted into digital data by A/D 213 (FIG. 1) (S3). The digital audio data is processed by Sound Processor 205 (FIG. 1) or CPU 211 (FIG. 1) to retrieve the text and numeric information therefrom (S4). The text and numeric information are retrieved (S5) and are displayed on LCD 201 (FIG. 1) (S6). If the retrieved information is not correct (S7), the user can input the correct text and/or numeric information manually by using the Input Device 210 (FIG. 1) (S8). If inputting the text and numeric information is completed (S9) and CPU 211 detects input signal from Input Device 210 to send the e-mail (S10), the dialing process is initiated (S11). The dialing process is repeated until Communication Device 200 is connected to Host H (S12), and the e-mail is sent to the designated address (S13).

<<Voice Recognition—Speech-to-Text Function>>

The next paragraph illustrates the speech-to-text function of Communication Device 200 (FIG. 1).

Once Communication Device 200 receives a transmitted data from another device via Antenna 218 (FIG. 1) (S1), Signal Processor 208 (FIG. 1) processes the data (e.g., wireless signal error check and decompression) (S2), and the transmitted data is converted into digital audio data (S3). Such conversion can be rendered by either CPU 211 (FIG. 1) or Signal Processor 208. The digital audio data is transferred to Sound Processor 205 (FIG. 1) via Data Bus 203 and text and numeric information are retrieved therefrom (S4). CPU 211 designates the predetermined font and color to the text and numeric information (S5) and also designates a tag to such information (S6). After these tasks are completed the tag and the text and numeric information are stored in RAM 206 and displayed on LCD 201 (S7).

This paragraph illustrates how the text and numeric information as well as the tag are displayed. On LCD 201 the text and numeric information 702 ('XXXXXXXXX') are displayed with the predetermined font and color as well as with the tag 701 ('John').

<<Audio/Video Data Capturing System>>

The following paragraphs illustrate the audio/video capturing system of Communication Device 200 (FIG. 1).

Assuming that Device A, a Communication Device 200, captures audio/video data and transfers such data to Device B, another Communication Device 200, via a host (not shown). Primarily video data is input from CCD Unit 214 (FIG. 1) and audio data is input from Microphone 215 of (FIG. 1) of Device A.

In this embodiment, RAM 206 (FIG. 1) includes Area 267 which stores video data, Area 268 which stores audio data, and Area 265 which is a work area utilized for the process explained hereinafter.

In this embodiment, the video data input from CCD Unit 214 (FIG. 1) (S1a) is converted from analog data to digital data (S2a) and is processed by Video Processor 202 (FIG. 1) (S3a). Area 265 is used as work area for such process. The processed video data is stored in Area 267 of RAM 206 (S4a) and is displayed on LCD 201 (FIG. 1) (S5a). The audio data input from Microphone 215 (FIG. 1) (Sib) is converted from analog data to digital data by A/D 213 (FIG. 1) (S2b) and is processed by Sound Processor 205 (FIG. 1) (S3b). Area 265 is used as work area for such process. The processed audio data is stored in Area 268 of RAM 206 (S4b) and is transferred to Sound Processor 205 and is output from Speaker 216

(FIG. 1) via D/A 204 (FIG. 1) (S5b). The sequences of S1a through S5a and S1b through S5b are continued until a specific signal indicating to stop such sequence is input from Input Device 210 (FIG. 1) or by the voice recognition system (S6).

This paragraph illustrates the sequence to transfer the video data and the audio data via Antenna 218 (FIG. 1) in a wireless fashion. CPU 211 (FIG. 1) of Device A initiates a dialing process (S1) until the line is connected to a host (not shown) (S2). As soon as the line is connected, CPU 211 reads the video data and the audio data stored in Area 267 and Area 268 (S3) and transfer them to Signal Processor 208 (FIG. 1) where the data are converted into a transferring data (S4). The transferring data is transferred from Antenna 218 (FIG. 1) in a wireless fashion (S5). The sequence of S1 through S5 is continued until a specific signal indicating to stop such sequence is input from Input Device 210 (FIG. 1) or via the voice recognition system (S6). The line is disconnected thereafter (S7).

This paragraph illustrates the basic structure of the transferred data which is transferred from Device A as described in S4 and S5 hereinbefore. Transferred data 610 is primarily composed of Header 611, video data 612, audio data 613, relevant data 614, and Footer 615. Video data 612 corresponds to the video data stored in Area 267 of RAM 206, and audio data 613 corresponds to the audio data stored in Area 268 of RAM 206. Relevant Data 614 includes various types of data, such as the identification numbers of Device A (i.e., transferor device) and Device B (i.e., the transferee device), a location data which represents the location of Device A, email data transferred from Device A to Device B, etc. Header 611 and Footer 615 represent the beginning and the end of Transferred Data 610 respectively.

This paragraph illustrates the data contained in RAM 206 (FIG. 1) of Device B. RAM 206 includes Area 269 which stores video data, Area 270 which stores audio data, and Area 266 which is a work area utilized for the process explained hereinafter.

In this embodiment, CPU 211 (FIG. 1) of Device B initiates a dialing process (S1) until Device B is connected to a host (not shown) (S2). Transferred Data 610 is received by Antenna 218 (FIG. 1) of Device B (S3) and is converted by Signal Processor 208 (FIG. 1) into data readable by CPU 211 (S4). Video data and audio data are retrieved from Transferred Data 610 and stored into Area 269 and Area 270 of RAM 206 respectively (S5). The video data stored in Area 269 is processed by Video Processor 202 (FIG. 1) (S6a). The processed video data is converted into an analog data (S7a) and displayed on LCD 201 (FIG. 1) (S8a). S7a may not be necessary depending on the type of LCD 201 used. The audio data stored in Area 270 is processed by Sound Processor 205 (FIG. 1) (S6b). The processed audio data is converted into analog data by D/A 204 (FIG. 1) (S7b) and output from Speaker 216 (FIG. 1) (S8b). The sequences of S6a through S8a and S6b through S8b are continued until a specific signal indicating to stop such sequence is input from Input Device 210 (FIG. 1) or via the voice recognition system (S9).

<<Caller ID System>>

The following paragraphs illustrate the caller ID system of Communication Device 200 (FIG. 1).

In this embodiment, RAM 206 includes Table C. Each phone number corresponds to a specific color and sound. For example Phone #1 corresponds to Color A and Sound E; Phone #2 corresponds to Color B and Sound F; Phone #3 corresponds to Color C and Sound G; and Phone #4 corresponds to color D and Sound H.

In this embodiment, the user of Communication Device 200 selects or inputs a phone number (S1) and selects a specific color (S2) and a specific sound (S3) designated for that phone number by utilizing Input Device 210 (FIG. 1). Such sequence can be repeated until there is a specific input signal from Input Device 210 ordering to do otherwise (S4).

In this embodiment, CPU 211 (FIG. 1) periodically checks whether it has received a call from other communication devices (S1). If it receives a call (S2), CPU 211 scans Table C to see whether the phone number of the caller device is registered in the table (S3). If there is a match (S4), the designated color is output from Indicator 212 (FIG. 1) and the designated sound is output from Speaker 216 (FIG. 1) (S5). For example if the incoming call is from Phone #1, Color A is output from Indicator 212 and Sound E is output from Speaker 216.

<<Navigation System>>

The following paragraphs illustrate the navigation system of Communication Device 200 (FIG. 1).

In this embodiment, RAM 206 (FIG. 1) includes Area 275, Area 276, Area 277, and Area 295. Area 275 stores a plurality of map data, two-dimensional (2D) image data, which are designed to be displayed on LCD 201 (FIG. 1). Area 276 stores a plurality of object data, three-dimensional (3D) image data, which are also designed to be displayed on LCD 201. The object data are primarily displayed by a method so-called 'texture mapping' which is explained in details hereinafter. Here, the object data include the three-dimensional data of various types of objects that are displayed on LCD 201, such as bridges, houses, hotels, motels, inns, gas stations, restaurants, streets, traffic lights, street signs, trees, etc. Area 277 stores a plurality of location data, i.e., data representing the locations of the objects stored in Area 276. Area 277 also stores a plurality of data representing the street address of each object stored in Area 276. In addition, Area 277 stores the current position data of Communication Device 200 and the Destination Data which are explained in details hereafter. The map data stored in Area 275 and the location data stored in Area 277 are linked each other. Area 295 stores a plurality of attribution data attributing to the map data stored in Area 275 and location data stored in Area 277, such as road blocks, traffic accidents, and road constructions, and traffic jams. The attribution data stored in Area 295 is updated periodically by receiving an updated data from a host (not shown).

In this embodiment, Video Processor 202 (FIG. 1) includes texture mapping processor 290. Texture mapping processor 290 produces polygons in a three-dimensional space and 'pastes' textures to each polygon. The concept of such method is described in the following patents and the references cited thereof: U.S. Pat. No. 5,870,101, U.S. Pat. No. 6,157,384, U.S. Pat. No. 5,774,125, U.S. Pat. No. 5,375,206, and/or U.S. Pat. No. 5,925,127.

In this embodiment, the voice recognition system is activated when CPU 211 (FIG. 1) detects a specific signal input from Input Device 210 (FIG. 1) (S1). After the voice recognition system is activated, the input current position mode starts and the current position of Communication Device 200 is input by voice recognition system (S2). The current position can also be input from Input Device 210. As another embodiment of the present invention, the current position can automatically be detected by the method so-called 'global positioning system' or 'GPS' and input the current data therefrom. After the process of inputting the current data is completed, the input destination mode starts and the destination is input by the voice recognition system explained above or by the Input Device 210 (S3), and the voice recognition system

is deactivated after the process of inputting the Destination Data is completed by utilizing such system (S4).

This paragraph illustrates the sequence of the input current position mode described in S2 described hereinbefore. When analog audio data is input from Microphone 215 (FIG. 1) (S1), such data is converted into digital audio data by A/D 213 (FIG. 1) (S2). The digital audio data is processed by Sound Processor 205 (FIG. 1) to retrieve text and numeric data therefrom (S3). The retrieved data is displayed on LCD 201 (FIG. 1) (S4). The data can be corrected by repeating the sequence of S1 through S4 until the correct data is displayed (S5). If the correct data is displayed, such data is registered as current position data (S6). As stated above, the current position data can be input manually by Input Device 210 (FIG. 1) and/or can be automatically input by utilizing the method so-called 'global positioning system' or 'GPS' as described hereinbefore.

This paragraph illustrates the sequence of the input destination mode described in S3 described hereinbefore. When analog audio data is input from Microphone 215 (FIG. 1) (S1), such data is converted into digital audio data by A/D 213 (FIG. 1) (S2). The digital audio data is processed by Sound Processor 205 (FIG. 1) to retrieve text and numeric data therefrom (S3). The retrieved data is displayed on LCD 201 (FIG. 1) (S4). The data can be corrected by repeating the sequence of S1 through S4 until the correct data is displayed on LCD 201 (S5). If the correct data is displayed, such data is registered as Destination Data (S6).

This paragraph illustrates the sequence of displaying the shortest route from the current position to the destination. CPU 211 (FIG. 1) retrieves both the current position data and the Destination Data which are input by the method described hereinbefore from Area 277 of RAM 206 (FIG. 1). By utilizing the location data of streets, bridges, traffic lights and other relevant data, CPU 211 calculates the shortest route to the destination (S1). CPU 211 then retrieves the relevant two-dimensional map data which should be displayed on LCD 201 from Area 275 of RAM 206 (S2).

As another embodiment of the present invention, by way of utilizing the location data stored in Area 277, CPU 211 may produce a three-dimensional map by composing the three dimensional objects (by method so-called 'texture mapping' as described above) which are stored in Area 276 of RAM 206. The two-dimensional map and/or the three dimensional map is displayed on LCD 201 (FIG. 1) (S3).

As another embodiment of the present invention, the attribution data stored in Area 295 of RAM 206 may be utilized. Namely if any road block, traffic accident, road construction, and/or traffic jam is included in the shortest route calculated by the method mentioned above, CPU 211 (FIG. 1) calculates the second shortest route to the destination. If the second shortest route still includes road block, traffic accident, road construction, and/or traffic jam, CPU 211 calculates the third shortest route to the destination. CPU 211 calculates repeatedly until the calculated route does not include any road block, traffic accident, road construction, and/or traffic jam. The shortest route to the destination is highlighted by a significant color (such as red) to enable the user of Communication Device 200 to easily recognize such route on LCD 201 (FIG. 1).

As another embodiment of the present invention, an image which is similar to the one which is observed by the user in the real world may be displayed on LCD 201 (FIG. 1) by utilizing the three-dimensional object data. In order to produce such image, CPU 211 (FIG. 1) identifies the present location and retrieves the corresponding location data from Area 277 of RAM 206. Then CPU 211 retrieves a plurality of object data

which correspond to such location data from Area 276 of RAM 206 and displays a plurality of objects on LCD 201 based on such object data in a manner the user of Communication Device 200 may observe from the current location.

This paragraph illustrates the sequence of updating the shortest route to the destination while Communication Device 200 is moving. By way of periodically and automatically inputting the current position by the method so-called 'global positioning system' or 'GPS' as described hereinbefore, the current position is continuously updated (S1). By utilizing the location data of streets and traffic lights and other relevant data, CPU 211 (FIG. 1) recalculates the shortest route to the destination (S2). CPU 211 then retrieves the relevant two-dimensional map data which should be displayed on LCD 201 from Area 275 of RAM 206 (S3). Instead, by way of utilizing the location data stored in Area 277, CPU 211 may produce a three-dimensional map by composing the three dimensional objects by method so-called 'texture mapping' which are stored in Area 276 of RAM 206. The two-dimensional map and/or the three-dimensional map is displayed on LCD 201 (FIG. 1) (S4). The shortest route to the destination is re-highlighted by a significant color (such as red) to enable the user of Communication Device 200 to easily recognize the updated route on LCD 201.

This paragraph illustrates the method of finding the shortest location of the desired facility, such as restaurant, hotel, gas station, etc. The voice recognition system is activated in the manner described hereinbefore (S1). By way of utilizing the voice recognition system, a certain type of facility is selected from the options displayed on LCD 201 (FIG. 1). The prepared options can be a) restaurant, b) lodge, and c) gas station (S2). Once one of the options is selected, CPU 211 (FIG. 1) calculates and inputs the current position by the method described hereinbefore (S3). From the data selected in S2, CPU 211 scans Area 277 of RAM 206 and searches the location of the facilities of the selected category (such as restaurant) which is the closest to the current position (S4). CPU 211 then retrieves the relevant two-dimensional map data which should be displayed on LCD 201 from Area 275 of RAM 206 (S5). Instead, by way of utilizing the location data stored in 277, CPU 211 may produce a three-dimensional map by composing the three dimensional objects by method so-called 'texture mapping' which are stored in Area 276 of RAM 206. The two-dimensional map and/or the three dimensional map is displayed on LCD 201 (FIG. 1) (S6). The shortest route to the destination is re-highlighted by a significant color (such as red) to enable the user of Communication Device 200 to easily recognize the updated route on LCD 201. The voice recognition system is deactivated thereafter (S7).

This paragraph illustrates the method of displaying the time and distance to the destination. CPU 211 (FIG. 1) calculates the current position wherein the source data can be input from the method described hereinbefore (S1). The distance is calculated from the method described hereinbefore (S2). The speed is calculated from the distance which Communication Device 200 has proceeded within specific period of time (S3). The distance to the destination and the time left are displayed on LCD 201 (FIG. 1) (S4 and S5).

This paragraph illustrates the method of warning and giving instructions when the user of Communication Device 200 deviates from the correct route. By way of periodically and automatically inputting the current position by the method so-called 'global positioning system' or 'GPS' as described hereinbefore, the current position is continuously updated (S1). If the current position deviates from the correct route (S2), a warning is given from Speaker 216 (FIG. 1) and/or on LCD 201 (FIG. 1) (S3). The method is repeated for a certain

period of time. If the deviation still exists after such period of time has passed, CPU **211** (FIG. **1**) initiates the sequence described hereinbefore and calculates the shortest route to the destination and display it on LCD **201**. The details of such sequence is as same as the one explained hereinbefore.

This paragraph illustrates the overall operation of Communication Device **200** regarding the navigation system and the communication system. When Communication Device **200** receives data from Antenna **218** (FIG. **1**) (S**1**), CPU **211** (FIG. **1**) determines whether the data is navigation data, i.e., data necessary to operate the navigation system (S**2**). If the data received is a navigation data, the navigation system described hereinbefore is performed (S**3**). On the other hand, if the data received is a communication data (S**4**), the communication system, i.e., the system necessary for wireless communication which is mainly described in FIG. **1** is performed (S**5**).

<<Auto Time Adjust Function>>

The following paragraphs illustrate the automatic time adjust function, i.e., a function which automatically adjusts the clock of Communication Device **200**.

This paragraph illustrates the data stored in RAM **206** (FIG. **1**). In this embodiment, RAM **206** includes Auto Time Adjust Software Storage Area **2069***a*, Current Time Data Storage Area **2069***b*, and Auto Time Data Storage Area **2069***c*. Auto Time Adjust Software Storage Area **2069***a* stores software program to implement the present function which is explained in details hereinafter, Current Time Data Storage Area **2069***b* stores the data which represents the current time, and Auto Time Data Storage Area **2069***c* is a working area assigned for implementing the present function.

This paragraph illustrates a software program stored in Auto Time Adjust Software Storage Area **2069***a*. First of all, Communication Device **200** is connected to Network NT (e.g., the Internet) via Antenna **218** (FIG. **1**) (S**1**). CPU **211** (FIG. **1**) then retrieves an atomic clock data from Network NT (S**2**) and the current time data from Current Time Data Storage Area **2069***b*, and compares both data. If the difference between both data is not within the predetermined value X (S**3**), CPU **211** adjusts the current time data (S**4**). The method to adjust the current data can be either simply overwrite the data stored in Current Time Data Storage Area **2069***b* with the atomic clock data retrieved from Network NT or calculate the difference of the two data and add or subtract the difference to or from the current time data stored in Current Time Data Storage Area **2069***b* by utilizing Auto Time Data Storage Area **2069***c* as a working area.

This paragraph illustrates another software program stored in Auto Time Adjust Software Storage Area **2069***a*. When the power of Communication Device **200** is turned on (S**1**), CPU **211** (FIG. **1**) stores a predetermined timer value in Auto Time Data Storage Area **2069***c* (S**2**). The timer value is decremented periodically (S**3**). When the timer value equals to zero (S**4**), the automatic timer adjust function is activated (S**5**) and CPU **211** performs the sequence described hereinbefore, and the sequence of S**2** through S**4** is repeated thereafter.

<<Calculator Function>>

The following paragraphs illustrate the calculator function of Communication Device **200**. Communication Device **200** can be utilized as a calculator to perform mathematical calculation by implementing the present function.

This paragraph illustrates the software program installed in each Communication Device **200** to initiate the present function. First of all, a list of modes is displayed on LCD **201** (FIG. **1**) (S**1**). When an input signal is input by utilizing Input Device **210** (FIG. **1**) or via voice recognition system to select a specific mode (S**2**), the selected mode is activated. In the present example, the communication mode is activated (S**3***a*)

when the communication mode is selected in the previous step, the game download mode and the game play mode are activated (S**3***b*) when the game download mode and the game play mode are selected in the previous step, and the calculator function is activated (S**3***c*) when the calculator function is selected in the previous step. The modes displayed on LCD **201** in S**1** which are selectable in S**2** and S**3** may include all functions and modes explained in this specification. Once the selected mode is activated, another mode can be activated while the first activated mode is still implemented by going through the steps of S**1** through S**3** for another mode, thereby enabling a plurality of functions and modes being performed simultaneously (S**4**).

This paragraph illustrates the data stored in RAM **206** (FIG. **1**). In this embodiment, the data to activate (as described in S**3***a* of the previous paragraph) and to perform the communication mode is stored in Communication Data Storage Area **2061***a*, the data to activate (as described in S**3***b* of the previous paragraph) and to perform the game download mode and the game play mode are stored in Game DL/Play Data Storage Area **2061***b*/**2061***c*, and the data to activate (as described in S**3***c* of the previous paragraph) and to perform the calculator function is stored in Calculator Information Storage Area **20615***a*.

This paragraph illustrates the data stored in Calculator Information Storage Area **20615***a*. In this embodiment, Calculator Information Storage Area **20615***a* includes Calculator Software Storage Area **20615***b* and Calculator Data Storages Area **20615***c*. Calculator Software Storage Area **20615***b* stores the software programs to implement the present function, such as the one explained hereinafter, and Calculator Data Storage Area **20615***c* stores a plurality of data necessary to execute the software programs stored in Calculator Software Storage Area **20615***b* and to implement the present function.

This paragraph illustrates the software program stored in Calculator Storage Area **20615***b*. In this embodiment, one or more of numeric data are input by utilizing Input Device **210** (FIG. **1**) or via voice recognition system as well as the arithmetic operators (e.g., '+', '−', and 'x'), which are temporarily stored in Calculator Data Storage Area **20615***c* (S**1**). By utilizing the data stored in Calculator Data Storage Area **20615***c*, CPU **211** (FIG. **1**) performs the calculation by executing the software program stored in Calculator Software Storage Area **20615***b* (S**2**). The result of the calculation is displayed on LCD **201** (FIG. **1**) thereafter (S**3**).

<<Word Processing Function>>

The following paragraphs illustrate the word processing function of Communication Device **200**. By way of implementing such function, Communication Device **200** can be utilized as a word processor which has the similar functions to Microsoft Words. The word processing function primarily includes the following functions: the bold formatting function, the italic formatting function, the image pasting function, the font formatting function, the spell check function, the underlining function, the page numbering function, and the bullets and numbering function. Here, the bold formatting function makes the selected alphanumeric data bold. The italic formatting function makes the selected alphanumeric data italic. The image pasting function pastes the selected image to a document to the selected location. The font formatting function changes the selected alphanumeric data to the selected font. The spell check function fixes spelling and grammatical errors of the alphanumeric data in the document. The underlining function adds underlines to the selected alphanumeric data. The page numbering function adds page numbers to each page of a document at the selected location.

The bullets and numbering function adds the selected type of bullets and numbers to the selected paragraphs.

This paragraph illustrates the software program installed in each Communication Device **200** to initiate the present function. First of all, a list of modes is displayed on LCD **201** (FIG. **1**) (S1). When an input signal is input by utilizing Input Device **210** (FIG. **1**) or via voice recognition system to select a specific mode (S2), the selected mode is activated. In the present example, the communication mode is activated (S3*a*) when the communication mode is selected in the previous step, the game download mode and the game play mode are activated (S3*b*) when the game download mode and the game play mode are selected in the previous step of which the details are described hereinafter, and the word processing function is activated (S3*c*) when the word processing function is selected in the previous step. The modes displayed on LCD **201** in S1 which are selectable in S2 and S3 may include all functions and modes explained in this specification. Once the selected mode is activated, another mode can be activated while the first activated mode is still implemented by going through the steps of S1 through S3 for another mode, thereby enabling a plurality of functions and modes being performed simultaneously (S4).

This paragraph illustrates the data stored in RAM **206** (FIG. **1**). In this embodiment, the data to activate (as described in S3*a* of the previous paragraph) and to perform the communication mode is stored in Communication Data Storage Area **2061***a*, the data to activate (as described in S3*b* of the previous paragraph) and to perform the game download mode and the game play mode are stored in Game DL/Play Data Storage Area **2061***b*/**2061***c* of which the details are described hereinafter, and the data to activate (as described in S3*c* of the previous paragraph) and to perform the word processing function is stored in Word Processing Information Storage Area **20617***a*.

This paragraph illustrates the data stored in Word Processing Information Storage Area **20617***a*. Word Processing Information Storage Area **20617***a* includes Word Processing Software Storage Area **20617***b* and Word Processing Data Storage Area **20617***c*. Word processing Software Storage Area **20617***b* stores the software programs described hereinafter, and Word Processing Data Storage Area **20617***c* stores a plurality of data described hereinafter.

This paragraph illustrates the software programs stored in Word Processing Software Storage Area **20617***b*. Word Processing Software Storage Area **20617***b* stores Alphanumeric Data Input Software **20617***b***1**, Bold Formatting Software **20617***b***2**, Italic Formatting Software **20617***b***3**, Image Pasting Software **20617***b***4**, Font Formatting Software **20617***b***5**, Spell Check Software **20617***b***6**, Underlining Software **20617***b***7**, Page Numbering Software **20617***b***8**, and Bullets And Numbering Software **20617***b***9**. Alphanumeric Data Input Software **20617***b***1** inputs to a document a series of alphanumeric data in accordance to the input signals produced by utilizing Input Device **210** (FIG. **1**) or via voice recognition system. Bold Formatting Software **20617***b***2** implements the bold formatting function which makes the selected alphanumeric data bold of which the sequence is described hereinafter. Italic Formatting Software **20617***b***3** implements the italic formatting function which makes the selected alphanumeric data italic of which the sequence is described hereinafter. Image Pasting Software **20617***b***4** implements the image pasting function which pastes the selected image to a document to the selected location of which the sequence is described hereinafter. Font Formatting Software **20617***b***5** implements the font formatting function which changes the selected alphanumeric data to the selected font of which the sequence is described

hereinafter. Spell Check Software **20617***b***6** implements the spell check function which fixes spelling and grammatical errors of the alphanumeric data in a document of which the sequence is described hereinafter. Underlining Software **20617***b***7** implements the underlining function which adds the selected underlines to the selected alphanumeric data of which the sequence is described hereinafter. Page Numbering Software **20617***b***8** implements the page numbering function which adds page numbers at the selected location to each page of a document of which the sequence is described hereinafter. Bullets And Numbering Software **20617***b***9** implements the bullets and numbering function which adds the selected type of bullets and numbers to the selected paragraphs of which the sequence is described hereinafter.

This paragraph illustrates the data stored in Word Processing Data Storage Area **20617***c*. Word Processing Data Storage Area **20617***c* includes Alphanumeric Data Storage Area **20617***c***1**, Bold Formatting Data Storage Area **20617***c***2**, Italic Formatting Data Storage Area **20617***c***3**, Image Data Storage Area **20617***c***4**, Font Formatting Data Storage Area **20617***c***5**, Spell Check Data Storage Area **20617***c***6**, Underlining Data Storage Area **20617***c***7**, Page Numbering Data Storage Area **20617***c***8**, and Bullets And Numbering Data Storage Area **20617***c***9**. Alphanumeric Data Storage Area **20617***c***1** stores the basic text and numeric data which are not decorated by bold and/or italic (the default font may be courier new). Bold Formatting Data Storage Area **20617***c***2** stores the text and numeric data which are decorated by bold. Italic Formatting Data Storage Area **20617***c***3** stores the text and numeric data which are decorated by italic. Image Data Storage Area **20617***c***4** stores the data representing the location of the image data pasted in a document and the image data itself. Font Formatting Data Storage Area **20617***c***5** stores a plurality of types of fonts, such as arial, century, courier new, tahoma, and times new roman, of all text and numeric data stored in Alphanumeric Data Storage Area **20617***c***1**. Spell check Data Storage Area **20617***c***6** stores a plurality of spell check data, i.e., a plurality of correct text and numeric data for purposes of being compared with the alphanumeric data input in a document and a plurality of pattern data for purposes of checking the grammatical errors therein. Underlining Data Storage Area **20617***c***7** stores a plurality of data representing underlines of different types. Page Numbering Data Storage Area **20617***c***8** stores the data representing the location of page numbers to be displayed in a document and the page number of each page of a document. Bullets And Numbering Data Storage Area **20617***c***9** stores a plurality of data representing different types of bullets and numbering and the location which they are added.

This paragraph illustrates the sequence of the software program stored in Alphanumeric Data Input Software **20617***b***1**. A plurality of alphanumeric data is input by utilizing Input Device **210** (FIG. **1**) or via voice recognition system (S1). The corresponding alphanumeric data is retrieved from Alphanumeric Data Storage Area **20617***c***1** (S2), and the document including the alphanumeric data retrieved in S2 is displayed on LCD **201** (FIG. **1**) (S3).

This paragraph illustrates the sequence of the software program stored in Bold Formatting Software **20617***b***2**. One or more of alphanumeric data are selected by utilizing Input Device **210** (FIG. **1**) or via voice recognition system (S1). Next, a bold formatting signal is input by utilizing Input Device **210** (e.g., selecting a specific icon displayed on LCD **201** (FIG. **1**) or selecting a specific item from a pulldown menu) or via voice recognition system (S2). CPU **211** (FIG. **1**) then retrieves the bold formatting data from Bold Formatting Data Storage Area **20617***c***2** (S3), and replaces the alpha-

numeric data selected in S1 with the bold formatting data retrieved in S3 (S4). The document with the replaced bold formatting data is displayed on LCD 201 thereafter (S5).

This paragraph illustrates the sequence of the software program stored in Italic Formatting Software 20617*b*3. One or more of alphanumeric data are selected by utilizing Input Device 210 (FIG. 1) or via voice recognition system (S1). Next, an italic formatting signal is input by utilizing Input Device 210 (e.g., selecting a specific icon displayed on LCD 201 (FIG. 1) or selecting a specific item from a pulldown menu) or via voice recognition system (S2). CPU 211 (FIG. 1) then retrieves the italic formatting data from Italic Formatting Data Storage Area 20617*c*3 (S3), and replaces the alphanumeric data selected in S1 with the italic formatting data retrieved in S3 (S4). The document with the replaced italic formatting data is displayed on LCD 201 thereafter (S5).

This paragraph illustrates the sequence of the software program stored in Image Pasting Software 20617*b*4. The image to be pasted is selected by utilizing Input Device 210 (FIG. 1) or via voice recognition system (S1). Here, the image may be of any type, such as JPEG, GIF, and TIFF. Next the location in a document where the image is to be pasted is selected by utilizing Input Device 210 or via voice recognition system (S2). The data representing the location is stored in Image Pasting Data Storage Area 20617*c*4. The image is pasted at the location selected in S2 and the image is stored in Image Pasting Data Storage Area 20617*c*4 (S3). The document with the pasted image is displayed on LCD 201 (FIG. 1) thereafter (S4).

This paragraph illustrates the sequence of the software program stored in Font Formatting Software 20617*b*5. One or more of alphanumeric data are selected by utilizing Input Device 210 (FIG. 1) or via voice recognition system (S1). Next, a font formatting signal is input by utilizing Input Device 210 (e.g., selecting a specific icon displayed on LCD 201 (FIG. 1) or selecting a specific item from a pulldown menu) or via voice recognition system (S2). CPU 211 (FIG. 1) then retrieves the font formatting data from Italic Formatting Data Storage Area 20617*c*5 (S3), and replaces the alphanumeric data selected in S1 with the font formatting data retrieved in S3 (S4). The document with the replaced font formatting data is displayed on LCD 201 thereafter (S5).

This paragraph illustrates the sequence of the software program stored in Spell Check Software 20617*b*6. CPU 211 (FIG. 1) scans all alphanumeric data in a document (S1). CPU 211 then compares the alphanumeric data with the spell check data stored in Spell Check Data Storage Area 20617*c*6, i.e., a plurality of correct text and numeric data for purposes of being compared with the alphanumeric data input in a document and a plurality of pattern data for purposes of checking the grammatical errors therein (S2). CPU 211 corrects the alphanumeric data and/or corrects the grammatical errors (S3), and the document with the corrected alphanumeric data is displayed on LCD 201 (FIG. 1) (S4).

This paragraph illustrates the sequence of the software program stored in Underlining Software 20617*b*7. One or more of alphanumeric data are selected by utilizing Input Device 210 (FIG. 1) or via voice recognition system (S1). Next, an underlining signal is input by utilizing Input Device 210 (e.g., selecting a specific icon displayed on LCD 201 (FIG. 1) or selecting a specific item from a pulldown menu) or via voice recognition system to select the type of the underline to be added (S2). CPU 211 (FIG. 1) then retrieves the underlining data from Underlining Data Storage Area 20617*c*7 (S3), and adds to the alphanumeric data selected in S1 (S4). The document with underlines added to the selected alphanumeric data is displayed on LCD 201 thereafter (S5).

This paragraph illustrates the sequence of the software program stored in Page Numbering Software 20617*b*8. A page numbering signal is input by utilizing Input Device 210 (FIG. 1) or via voice recognition system (S1). Next, the location to display the page number is selected by utilizing Input Device 210 or via voice recognition system (S2). CPU 211 (FIG. 1) then stores the location of the page number to be displayed in Page Numbering Storage Area 20617*c*8, and adds the page number to each page of a document at the selected location (S3). The document with page numbers is displayed on LCD 201 thereafter (S4).

This paragraph illustrates the sequence of the software program stored in Bullets And Numbering Software 20617*b*9. A paragraph is selected by utilizing input device 210 (FIG. 1) or via voice recognition system (S1). Next, the type of the bullets and/or numbering is selected by utilizing Input Device 210 or via voice recognition system (S2). CPU 211 (FIG. 1) then stores the identification data of the paragraph selected in S1 and the type of the bullets and/or numbering in Bullets And Numbering Data Storage Area 20617*c*9, and adds the bullets and/or numbering to the selected paragraph of a document (S3). The document with the bullets and/or numbering is displayed on LCD 201 thereafter (S4).

<<Start Up Software Function>>

The following paragraphs illustrate the start up software program function which enables Communication Device 200 to automatically activate (or start up) the registered software programs when the power is on.

This paragraph illustrates the overall sequence of the present function. The user of Communication Device 200 presses the power button of Communication Device 200 (S1). Then the predetermined software programs automatically activate (or start up) without having any instructions from the user of Communication Device 200 (S2).

This paragraph illustrates the storage area included RAM 206 (FIG. 1). RAM 206 includes Start Up Information Storage Area 20621*a* which is described hereinafter.

This paragraph illustrates the storage areas included in Start Up Information Storage Area 20621*a*. Start Up Information Storage Area 20621*a* includes Start Up Software Storage Area 20621*b* and Start Up Data Storage Area 20621*c*. Start Up Software Storage Area 20621*b* stores the software programs necessary to implement the present function, such as the ones described hereinafter. Start Up Data Storage Area 20621*c* stores the data necessary to implement the present function, such as the ones described hereinafter.

This paragraph illustrates the software programs stored in Start Up Software Storage Area 20621*b*. Start Up Software Storage Area 20621*b* stores Power On Detecting Software 20621*b*1, Start Up Data Storage Area Scanning Software 20621*b*2, and Start Up Software Activating Software 20621*b*3. Power On Detecting Software 20621*b*1 detects whether the power of Communication Device 200 is on of which the sequence is described hereinafter, Start Up Data Storage Area Scanning Software 20621*b*2 identifies the software programs which are automatically activated of which the sequence is described hereinafter, and Start Up Software Activating Software 20621*b*3 activates the identified software programs identified by Start Up Data Storage Area Scanning Software 20621*b*2 of which the sequence is described hereinafter.

This paragraph illustrates the storage area included in Start Up Data Storage Area 20621*c*. Start Up Data Storage Area 20621*c* includes Start Up Software Index Storage Area 20621*c*1. Here, Start Up Software Index Storage Area 20621*c*1 stores the software program indexes, wherein a soft-

ware program index is an unique information assigned to each software program as an identifier (e.g., title of a software program) of which the details are explained hereinafter.

This paragraph illustrates the data stored in Start Up Software Index Storage Area 20621c1. Start Up Software Index Storage Area 20621c1 stores the software program indexes of the software programs which are automatically activated by the present function. Here, the software programs may be any software programs explained in this specification. Three software program indexes, i.e., Start Up Software Index 20621c1a, Start Up Software Index 20621c1b, and Start Up Software Index 20621c1c, are stored in Start Up Software Index Storage Area 20621c1 in the present example. The software program indexes can be created and store in Start Up Software Index Storage Area 20621c1 manually by utilizing input device 210 (FIG. 1) or via voice recognition system.

This paragraph illustrates the sequence of Power On Detecting Software 20621b1 stored in Start Up Software Storage Area 20621b. CPU 211 (FIG. 1) checks the status of the power condition of Communication Device 200 (S1). When the user of Communication Device 200 powers on Communication Device 200 by utilizing input device 210 (FIG. 1), such as by pressing a power button (S2), CPU 211 activates Start Up Data Storage Area Scanning Software 20621b2 of which the sequence is explained hereinafter.

This paragraph illustrates the sequence of Start Up Data Storage Area Scanning Software 20621b2 stored in Start Up Software Storage Area 20621b. CPU 211 (FIG. 1) scans Start Up Software Index Storage Area 20621c1 (S1), and identifies the software programs which are automatically activated (S2). CPU 211 activates Start Up Software Activating Software 20621b3 thereafter of which the sequence is explained hereinafter (S3).

This paragraph illustrates the sequence of Start Up Software Activating Software 20621b3 stored in Start Up Software Storage Area 20621b. CPU 211 (FIG. 1) activates the software programs of which the software program indexes are identified in S2 described hereinbefore (S1).

This paragraph illustrates another embodiment wherein the three software programs stored in Start Up Software Storage Area 20621b (i.e., Power On Detecting Software 20621b1, Start Up Data Storage Area Scanning Software 20621b2, Start Up Software Activating Software 20621b3) is integrated into one software program stored therein. CPU 211 (FIG. 1) checks the status of the power condition of Communication Device 200 (S1). When the user of Communication Device 200 powers on Communication Device 200 by utilizing input device 210 (FIG. 1), such as by pressing a power button (S2), CPU 211 scans Start Up Software Index Storage Area 20621c1 (S3), and identifies the software programs which are automatically activated (S4). CPU 211 activates the software programs thereafter of which the software program indexes are identified in S4 (S5).

As another embodiment, the software programs per se (not the software program indexes described hereinbefore may be stored in a specific storage area which are activated by the present function.

As another embodiment, the present function may be implemented at the time the user of Communication Device 200 logs on instead of at the time the Communication Device 200 is powered as described in S2 described hereinbefore.

<<Stereo Audio Data Output Function>>

The following paragraphs illustrate the stereo audio data output function which enables Communication Device 200 to output audio data from Speakers 216L and 216R in a stereo fashion.

This paragraph illustrates the storage area included in Host Data Storage Area H00c of Host H. In this embodiment, Host Data Storage Area H00c includes Stereo Audio Information Storage Area H22a. Stereo Audio Information Storage Area H22a stores the software programs and data necessary to implement the present function as described in details hereinafter.

This paragraph illustrates the storage areas included in Stereo Audio Information Storage Area H22a. In this embodiment, Stereo Audio Information Storage Area H22a includes Stereo Audio Software Storage Area H22b and Stereo Audio Data Storage Area H22c. Stereo Audio Software Storage Area H22b stores the software programs necessary to implement the present function, such as the one described hereinafter. Stereo Audio Data Storage Area H22c stores the data necessary to implement the present function, such as the ones described hereinafter.

This paragraph illustrates the stereo audio data stored in Stereo Audio Data Storage Area H22c. A plurality of stereo audio data are stored in Stereo Audio Data Storage Area H22c. In this embodiment, three stereo audio data, i.e., Stereo Audio Data H22c1, Stereo Audio Data H22c2, and Stereo Audio Data H22c3 are stored therein.

This paragraph illustrates the components of the stereo audio data stored in Stereo Audio Data Storage Area H22c. This paragraph describes the components of Stereo Audio Data H22c1 as an example. In this embodiment, Stereo Audio Data H22c1 includes Left Speaker Audio Data H22c1L, Right Speaker Audio Data H22c1R, and Stereo Audio Data Output Timing Data H22c1T. Left Speaker Audio Data H22c1L is an audio data which is designed to be output from Speaker 216L. Right Speaker Audio Data H22c1R is an audio data which is designed to be output from Speaker 216R. Stereo Audio Data Output Timing Data H22c1T is a timing data which is utilized to synchronize the output of both Left Speaker Audio Data H22c1L and Right Speaker Audio Data H22c1R from Speaker 216R and Speaker 216L respectively.

This paragraph illustrates the sequence of the software program stored in Stereo Audio Software Storage Area H22b. In this embodiment, the software program stored in Stereo Audio Software Storage Area H22b extracts one of the stereo audio data stored in Stereo Audio Data Storage Area H22c and creates Transferred Stereo Audio Data TSAD for purposes of transferring the extracted stereo audio data to Communication Device 200 (S1).

This paragraph illustrates the components of Transferred Stereo Audio Data TSAD created by the software program stored in Stereo Audio Software Storage Area H22b. In this embodiment, Transferred Stereo Audio Data TSAD is composed of Header TSAD1, Com Device ID TSAD2, Host ID TSAD3, Transferred Stereo Audio Data TSAD4, and Footer TSAD5. Com Device ID TSAD2 indicates the identification of Communication Device 200, Host ID TSAD3 indicates the identification of Host H, and Transferred Stereo Audio Data TSAD4 is the stereo audio data extracted in the manner described hereinbefore. Header TSAD1 and Footer TSAD5 indicate the beginning and the end of Transferred Stereo Audio Data TSAD.

This paragraph illustrates the storage area included in RAM 206 (FIG. 1) of Communication Device 200. In this embodiment, RAM 206 includes Stereo Audio Information Storage Area 20622a. Stereo Audio Information Storage Area 20622a stores the software programs and data necessary to implement the present function as described in details hereinafter.

This paragraph illustrates the storage areas included in Stereo Audio Information Storage Area 20622a. In this

embodiment, Stereo Audio Information Storage Area 20622a includes Stereo Audio Software Storage Area 20622b and Stereo Audio Data Storage Area 20622c. Stereo Audio Software Storage Area 20622b stores the software programs necessary to implement the present function, such as the ones described hereinafter. Stereo Audio Data Storage Area 20622c stores the data necessary to implement the present function, such as the ones described hereinafter.

This paragraph illustrates the stereo audio data stored in Stereo Audio Data Storage Area 20622c. A plurality of stereo audio data are stored in Stereo Audio Data Storage Area 20622c. In this embodiment, three stereo audio data, i.e., Stereo Audio Data 20622c1, Stereo Audio Data 20622c2, and Stereo Audio Data 20622c3 are stored therein.

This paragraph illustrates the components of the stereo audio data stored in Stereo Audio Data Storage Area 20622c. This paragraph describes the components of Stereo Audio Data 20622c1 as an example. In this embodiment, Stereo Audio Data 20622c1 includes Left Speaker Audio Data 20622c1L, Right Speaker Audio Data 20622c1R, and Stereo Audio Data Output Timing Data 20622c1T. Left Speaker Audio Data 20622c1L is an audio data which is designed to be output from Speaker 216L. Right Speaker Audio Data 20622c1R is an audio data which is designed to be output from Speaker 216R. Stereo Audio Data Output Timing Data 20622c1T is a timing data which is utilized to synchronize the output of both Left Speaker Audio Data 20622c1L and Right Speaker Audio Data 20622c1R from Speaker 216R and Speaker 216L respectively.

The downloaded stereo audio data are stored in specific area(s) of Stereo Audio Data Storage Area 20622c.

This paragraph illustrates the sequence of selecting and preparing to output the stereo audio data from Speakers 216L and 216R in a stereo fashion. In this embodiment, a list of stereo audio data is displayed on LCD 201 (FIG. 1) (S1). The user of Communication Device 200 selects one stereo audio data by utilizing Input Device 210 (FIG. 1) or via voice recognition system (S2). Assuming Stereo Audio Data 20622c1 is selected in S2, CPU 211 (FIG. 1) retrieves Left Speaker Audio Data 20622c1L (S3), Right Speaker Audio Data 20622c1R (S4), and Stereo Audio Data Output Timing Data 20622c1T from Stereo Audio Data Storage Area 20622c (S5).

This paragraph illustrates the sequence of outputting the stereo audio data from Speakers 216L and 216R in a stereo fashion. In this embodiment, the user of Communication Device 200 inputs a specific signal to output the stereo audio data by utilizing Input Device 210 (FIG. 1) or via voice recognition system (S1). Assuming Audio Data 20622c1 is selected in S2 described hereinbefore, CPU 211 outputs Left Speaker Audio Data 20622c1L and Right Speaker Audio Data 20622c1R from Speakers 216L and 216R respectively in a stereo fashion in accordance with Stereo Audio Data Output Timing Data 20622c1T (S2).

<<SOS Calling Function>>

The following paragraphs illustrate the SOS calling function which enables Communication Device 200 to notify the police department the current location of Communication Device 200 and the personal information of the user of Communication 200 when a 911 call is dialed from Communication Device 200.

This paragraph illustrates the storage area included in Host Information Storage Area H00a. Host Information Storage Area H00a includes SOS Calling Information Storage Area H29a of which the data stored therein are described hereinafter.

This paragraph illustrates the storage areas included in SOS Calling Information Storage Area H29a. SOS Calling Information Storage Area H29a includes SOS Calling Data Storage Area H29b and SOS Calling Software Storage Area H29c. SOS Calling Data Storage Area H29b stores the data necessary to implement the present function, such as the ones described hereinafter. SOS Calling Software Storage Area H29c stores the software programs necessary to implement the present function, such as the ones described hereinafter.

This paragraph illustrates the storage area included in SOS Calling Data Storage Area H29b. SOS Calling Data Storage Area H29b includes Police Department Location Data Storage Area H29b1 of which the data stored therein are described hereinafter.

This paragraph illustrates the data stored in Police Department Location Data Storage Area H29b1. Police Department Location Data Storage Area H29b1 includes three columns, i.e., Police Dept ID, Location Data, and Phone #. Police Dept ID represents the identification of a police department (e.g., NYPD). Location Data represents the geographical location data (in x, y, z format) of the police department of the corresponding Police Dept ID. Phone # represents the phone number of the police department of the corresponding Police Dept ID. In the present example, H29PD #1 is an identification of the police department of which the geographical location is H29LD #1 and of which the phone number is H29PN #1; H29PD #2 is an identification of the police department of which the geographical location is H29LD #2 and of which the phone number is H29PN #2; H29PD #3 is an identification of the police department of which the geographical location is H29LD #3 and of which the phone number is H29PN #3; and H29PD #4 is an identification of the police department of which the geographical location is H29LD #4 and of which the phone number is H29PN #4.

The data and/or the software programs necessary to implement the present function on the side of Communication Device 200 as described hereinafter may be downloaded from Host H.

This paragraph illustrates the storage area included in RAM 206 (FIG. 1) of Communication Device 200. RAM 206 includes SOS Calling Information Storage Area 20629a of which the details are described hereinafter.

This paragraph illustrates the storage areas included in SOS Calling Information Storage Area 20629a. SOS Calling Information Storage Area 20629a includes SOS Calling Data Storage Area 20629b and SOS Calling Software Storage Area 20629c. SOS Calling Data Storage Area 20629b includes data necessary to implement the present function, such as the ones described hereinafter. SOS Calling Software Storage Area 20629c stores the software programs necessary to implement the present function, such as the one described hereinafter.

This paragraph illustrates storage areas included in SOS Calling Data Storage Area 20629b. SOS Calling Data Storage Area 20629b includes GPS Data Storage Area 20629b1 and User Data Storage Area 20629b2. GPS Data Storage Area 20629b1 stores the data regarding the current geographical location produced by the method so-called GPS as described hereinbefore. User Data Storage Area 20629b2 stores the data regarding the personal information of the user of Communication Device 200 as described hereinafter.

This paragraph illustrates the data stored in User Data Storage Area 20629b2. User Data Storage Area 20629b2 includes User Data 20629UD which includes data regarding the personal information of the user of Communication Device 200. In the present example, User Data 20629UD comprises Name, Age, Sex, Race, Blood Type, Home Address, and SSN. Name represents the name of the user of

Communication Device **200**; Age represents the age of the user of Communication Device **200**; Sex represents the sex of the user of Communication Device **200**; Race represents the race of the user of Communication Device **200**; Blood Type represents the blood type of the user of Communication Device **200**; Home Address represents the home address of the user of Communication Device **200**; and SSN represents the social security number of the user of Communication Device **200**.

This paragraph illustrates the software program stored in SOS Calling Software Storage Area **20629**c. When the user of Communication Device **200** inputs **911** by utilizing Input Device **210** (FIG. **1**) or via voice recognition system (S1), CPU **211** (FIG. **1**) calculates the GPS data, i.e., the current geographical location data by utilizing the method so-called GPS as described hereinbefore (S2), and stores the GPS data in GPS Data Storage Area **20629**$b1$ (S3). CPU **211** then retrieves User Data **20629**UD from User Data Storage Area **20629**$b2$ and the GPS data from GPS Data Storage Area **20629**$b1$ (S4), and composes SOS Data **20629**SOS therefrom (S5), which is sent thereafter to Host H (S6).

This paragraph illustrates the elements of SOS Data **20629**SOS. SOS Data **20629**SOS comprises Connection Request **20629**CR, GPS Data **20629**GD, and User Data **20629**UD. Connection Request **20629**CR represents a request to Host H to forward the 911 call to a police department. GPS Data **20629**GD is a data retrieved from GPS Data Storage Area **20629**$b1$ as described in S4 described hereinbefore. User Data **20629**UD is a data retrieved from User Data Storage Area **20629**$b2$ as described in S4 described hereinbefore.

This paragraph illustrates the software program stored in SOS Calling Software Storage Area H**29**c of Host H. Host H periodically checks the incoming call (S1). If the incoming call is SOS Data **20629**SOS (S2), Host H initiates the SOS calling process as described hereinafter (S3).

This paragraph illustrates the software program stored in SOS Calling Software Storage Area H**29**c of Host H. Host H retrieves GPS Data **20629**GD from SOS Data **20629**SOS (S1), and selects the closest police department by comparing GPS Data **20629**GD and the data stored in column Location Data of Police Department Location Data Storage Area H**29**$b1$ of Host H (S2). Host H then retrieves the corresponding phone number stored in column Phone # and connects the line between the corresponding police department and Communication Device **200** in order to initiate a voice communication therebetween (S3). Host H forwards to the police department thereafter GPS Data **20629**GD and User Data **20629**UD retrieved in S1 (S4).

As another embodiment, User Data **20629**UD stored in User Data Storage Area **20629**$b2$ may be stored in SOS Calling Data Storage Area H**29**b of Host H. In this embodiment, SOS Data **20629**SOS primarily comprises Connection Request **20629**CR and GPS Data **20629**GD, and User Data **20629**UD is retrieved from SOS Calling Data Storage Area H**29**b of Host H, which is sent to the police department in S4 described hereinbefore.

<<Audiovisual Playback Function>>

The following paragraphs illustrate the audiovisual playback function which enables Communication Device **200** to playback audiovisual data, such as movies, soap operas, situation comedies, news, and any type of TV programs.

This paragraph illustrates the information stored in RAM **206** (FIG. **1**). RAM **206** includes Audiovisual Playback Information Storage Area **20632**a of which the information stored therein are described hereinafter.

The data and/or the software programs necessary to implement the present function may be downloaded to Communication Device **200** from Host H.

This paragraph illustrates the data and software programs stored in Audiovisual Playback Information Storage Area **20632**a. Audiovisual Playback Information Storage Area **20632**a includes Audiovisual Playback Data Storage Area **20632**b and Audiovisual Playback Software Storage Area **20632**c. Audiovisual Playback Data Storage Area **20632**b stores the data necessary to implement the present function, such as the ones described hereinafter. Audiovisual Playback Software Storage Area **20632**c stores the software programs necessary to implement the present function, such as the ones described hereinafter.

This paragraph illustrates the data stored in Audiovisual Playback Data Storage Area **20632**b. Audiovisual Playback Data Storage Area **20632**b includes Audiovisual Data Storage Area **20632**$b1$ and Message Data Storage Area **20632**$b2$. Audiovisual Data Storage Area **20632**$b1$ stores a plurality of audiovisual data described hereinafter. Message Data Storage Area **20632**$b2$ stores a plurality of message data described hereinafter.

This paragraph illustrates the audiovisual data stored in Audiovisual Data Storage Area **20632**$b1$. Audiovisual Data Storage Area **20632**$b1$ stores a plurality of audiovisual data wherein the audiovisual data stored therein in the present example are: Audiovisual Data **20632**$b1a$, Audiovisual Data **20632**$b1b$, Audiovisual Data **20632**$b1c$, and Audiovisual Data **20632**$b1d$, all of which are primarily composed of video data and audio data. Audiovisual Data **20632**$b1a$ is a movie, Audiovisual Data **20632**$b1b$ is a soap opera, Audiovisual Data **20632**$b1c$ is a situation comedy, Audiovisual Data **20632**$b1d$ is TV news in the present embodiment. As another embodiment, Audiovisual Data **20632**$b1d$ may be an audiovisual data taken via CCD Unit **214** (FIG. **1**) and Microphone **215** (FIG. **1**).

This paragraph illustrates the data stored in Message Data Storage Area **20632**$b2$. Message Data Storage Area **20632**$b2$ includes Start Message Text Data **20632**$b2a$, Stop Message Text Data **20632**$b2b$, Pause Message Text Data **20632**$b2c$, Resume Message Text Data **20632**$b2c1$, Slow Replay Message Text Data **20632**$b2d$, Forward Message Text Data **20632**$b2e$, Rewind Message Text Data **20632**$b2f$, Next Message Text Data **20632**$b2g$, and Previous Message Text Data **20632**$b2h$. Start Message Text Data **20632**$b2a$ is a text data which is displayed on LCD **201** (FIG. **1**) and which indicates that the playback of an audiovisual data is initiated. Stop Message Text Data **20632**$b2b$ is a text data which is displayed on LCD **201** and which indicates that the playback process of an audiovisual data is stopped. Pause Message Text Data **20632**$b2c$ is a text data which is displayed on LCD **201** and which indicates that the playback process of an audiovisual data is paused. Resume Message Text Data **20632**$b2c1$ is a text data which is displayed on LCD **201** and which indicates that the playback process of an audiovisual data is resumed from the point it is paused. Slow Replay Message Text Data **20632**$b2d$ is a text data which is displayed on LCD **201** and which indicates that the playback process of an audiovisual data is implemented in a slow motion. Fast-Forward Message Text Data **20632**$b2e$ is a text data which is displayed on LCD **201** and which indicates that an audiovisual data is fast-forwarded. Fast-Rewind Message Text Data **20632**$b2f$ is a text data which is displayed on LCD **201** and which indicates that an audiovisual data is fast-rewinded. Next Message Text Data **20632**$b2g$ is a text data which is displayed on LCD **201** and which indicates that the playback process of the next audiovisual data stored in Audiovisual Data Storage Area

20632*b*1 is initiated. Previous Message Text Data 20632*b*2*h* is a text data which is displayed on LCD 201 and which indicates that the playback process of the previous audiovisual data stored in Audiovisual Data Storage Area 20632*b*1 is initiated.

This paragraph illustrates the software programs stored in Audiovisual Playback Software Storage Area 20632*c*. Audiovisual Playback Software Storage Area 20632*c* includes Audiovisual Start Software 20632*c*1, Audiovisual Stop Software 20632*c*2, Audiovisual Pause Software 20632*c*3, Audiovisual Resume Software 20632*c*3*a*, Audiovisual Slow Replay Software 20632*c*4, Audiovisual Fast-Forward Software 20632*c*5, Audiovisual Fast-Rewind Software 20632*c*6, Audiovisual Next Software 20632*c*7, and Audiovisual Previous Software 20632*c*8. Audiovisual Start Software 20632*c*1 is a software program which initiates the playback process of an audiovisual data. Audiovisual Stop Software 20632*c*2 is a software program which stops the playback process of an audiovisual data. Audiovisual Pause Software 20632*c*3 is a software program which pauses the playback process of an audiovisual data. Audiovisual Resume Software 20632*c*3*a* is a software program which resumes the playback process of the audiovisual data from the point it is paused by Audiovisual Pause Software 20632*c*3. Audiovisual Slow Replay Software 20632*c*4 is a software program which implements the playback process of an audiovisual data in a slow motion. Audiovisual Fast-Forward Software 20632*c*5 is a software program which fast-forwards an audiovisual data. Audiovisual Fast-Rewind Software 20632*c*6 is a software program which fast-rewinds an audiovisual data. Audiovisual Next Software 20632*c*7 is a software program which initiates the playback process of the next audiovisual data stored in Audiovisual Data Storage Area 20632*b*1. Audiovisual Previous Software 20632*c*8 is a software program which initiates the playback process of the previous audiovisual data stored in Audiovisual Data Storage Area 20632*b*1.

This paragraph illustrates the messages displayed on LCD 201 (FIG. 1). Eight types of messages are displayed on LCD 201, i.e., 'Start', 'Stop', 'Pause', 'Resume', 'Slow Reply', 'Fast-Forward', 'Fast-Rewind', 'Next', and 'Previous'. 'Start' is Start Message Text Data 20632*b*2*a*, 'Stop' is Stop Message Text Data 20632*b*2*b*, 'Pause' is Pause Message Text Data 20632*b*2*c*, 'Resume' is Resume Message Text Data 20632*b*2*c*1, 'Slow Reply' is Slow Replay Message Text Data 20632*b*2*d*, 'Fast-Forward' is Fast-Forward Message Text Data 20632*b*2*e*, 'Fast-Rewind' is Fast-Rewind Message Text Data 20632*b*2*f*, 'Next' is Next Message Text Data 20632*b*2*g*, 'Previous' is Previous Message Text Data 20632*b*2*h* described hereinbefore.

This paragraph illustrates Audiovisual Selecting Software 20632*c*9 stored in Audiovisual Playback Software Storage Area 20632*c* in preparation of executing the software programs described hereinafter. CPU 211 (FIG. 1) retrieves the identifications of the audiovisual data stored in Audiovisual Data Storage Area 20632*b*1 (S1). CPU 211 then displays a list of the identifications on LCD 201 (FIG. 1) (S2). A particular audiovisual data is selected by utilizing Input Device 210 (FIG. 1) or via voice recognition system (S3).

The following paragraphs illustrate the software programs stored in Audiovisual Playback Software Storage Area 20632*c*. Nine types of input signals can be input by utilizing Input Device 210 (FIG. 1) or via voice recognition system, i.e., the audiovisual playback signal, the audiovisual stop signal, the audiovisual pause signal, the audiovisual resume signal, the audiovisual slow replay signal, the audiovisual fast-forward signal, the audiovisual fast-rewind signal, the audiovisual next signal, and the audiovisual previous signal.

The audiovisual playback signal indicates to initiate the playback process of the audiovisual data selected in S3 described hereinbefore. The audiovisual stop signal indicates to stop the playback process of the audiovisual data selected in S3 described hereinbefore. The audiovisual pause signal indicates to pause the playback process of the audiovisual data selected in S3 described hereinbefore. The audiovisual resume signal indicates to resume the playback process of the audiovisual data selected in S3 described hereinbefore from the point the audio data is paused. The audiovisual slow replay signal indicates to implement the playback process of the audiovisual data selected in S3 described hereinbefore in a slow motion. The audiovisual fast-forward signal indicates to fast-forward the audiovisual data selected in S3 described hereinbefore. The audiovisual fast-rewind signal indicates to fast-rewind the audiovisual data selected in S3 described hereinbefore. The audiovisual next signal indicates to initiate the playback process of the next audiovisual data of the audiovisual data selected in S3 described hereinbefore both of which are stored in Audiovisual Data Storage Area 20632*b*1. The audiovisual previous signal indicates to initiate the playback process of the previous audiovisual data of the audiovisual data selected in S3 described hereinbefore both of which are stored in Audiovisual Data Storage Area 20632*b*1.

This paragraph illustrates Audiovisual Start Software 20632*c*1 stored in Audiovisual Playback Software Storage Area 20632*c* which initiates the playback process of the audiovisual data selected in S3 described hereinbefore. The audiovisual playback signal is input by utilizing Input Device 210 (FIG. 1) or via voice recognition system (S1). CPU 211 (FIG. 1) then initiates the playback process (i.e., outputs the audio data from Speaker 216 (FIG. 1) and display the video data on LCD 201 (FIG. 1)) of the audiovisual data selected in S3 described hereinbefore (S2), and retrieves Start Message Text Data 20632*b*2*a* from Message Data Storage Area 20632*b*2 and displays the data on LCD 201 (FIG. 1) for a specified period of time (S3).

This paragraph illustrates Audiovisual Stop Software 20632*c*2 stored in Audiovisual Playback Software Storage Area 20632*c* which stops the playback process of the audiovisual data selected in S3 described hereinbefore. The audiovisual stop signal is input by utilizing Input Device 210 (FIG. 1) or via voice recognition system (S1). CPU 211 (FIG. 1) then stops the playback process of the audiovisual data selected in S3 described hereinbefore (S2), and retrieves Stop Message Text Data 20632*b*2*b* from Message Data Storage Area 20632*b*2 and displays the data on LCD 201 (FIG. 1) for a specified period of time (S3).

This paragraph illustrates Audiovisual Pause Software 20632*c*3 stored in Audiovisual Playback Software Storage Area 20632*c* which pauses the playback process of the audiovisual data selected in S3 described hereinbefore. The audiovisual pause signal is input by utilizing Input Device 210 (FIG. 1) or via voice recognition system (S1). CPU 211 (FIG. 1) then pauses the playback process of the audiovisual data selected in S3 described hereinbefore (S2), and retrieves Pause Message Text Data 20632*b*2*c* from Message Data Storage Area 20632*b*2 and displays the data on LCD 201 (FIG. 1) for a specified period of time (S3) When the playback process is paused in S2, the audio data included in the audiovisual data is refrained from being output from Speaker 216 (FIG. 1) and a still image composing the video data included in the audiovisual data is displayed on LCD 201 (FIG. 1).

This paragraph illustrates Audiovisual Resume Software 20632*c*3*a* stored in Audiovisual Playback Software Storage Area 20632*c* which resumes the playback process of the audiovisual data selected in S3 described hereinbefore from

the point the audiovisual data is paused in S2 described hereinbefore. The audiovisual resume signal is input by utilizing Input Device 210 (FIG. 1) or via voice recognition system (S1). CPU 211 (FIG. 1) then resumes the playback process of the audiovisual data selected in S3 described hereinbefore (S2) from the point it is paused in S2 described hereinbefore, and retrieves Resume Message Text Data 20632$b2c1$ from Message Data Storage Area 20632$b2$ and displays the data on LCD 201 (FIG. 1) for a specified period of time (S3) When the playback process is resumed in S2, the audio data included in the audiovisual data is resumed to be output from Speaker 216 (FIG. 1) and the video data included in the audiovisual data is resumed to be displayed on LCD 201 (FIG. 1).

This paragraph illustrates Audiovisual Slow Replay Software 20632$c4$ stored in Audiovisual Playback Software Storage Area 20632c which implements the playback process of the audiovisual data selected in S3 described hereinbefore in a slow motion. The audiovisual slow replay signal is input by utilizing Input Device 210 (FIG. 1) or via voice recognition system (S1). CPU 211 (FIG. 1) then initiates the playback process of the audiovisual data selected in S3 described hereinbefore in a slow motion (S2), and retrieves Slow Replay Message Text Data 20632$b2d$ from Message Data Storage Area 20632$b2$ and displays the data on LCD 201 (FIG. 1) for a specified period of time (S3).

This paragraph illustrates Audiovisual Fast-Forward Software 20632$c5$ stored in Audiovisual Playback Software Storage Area 20632c which fast-forwards the audiovisual data selected in S3 described hereinbefore. The audiovisual fast-forward signal is input by utilizing Input Device 210 (FIG. 1) or via voice recognition system (S1). CPU 211 (FIG. 1) then fast-forwards the audiovisual data selected in S3 described hereinbefore (S2), and retrieves Fast-Forward Message Text Data 20632$b2e$ from Message Data Storage Area 20632$b2$ and displays the data on LCD 201 (FIG. 1) for a specified period of time (S3).

This paragraph illustrates Audiovisual Fast-Rewind Software 20632$c6$ stored in Audiovisual Playback Software Storage Area 20632c which fast-rewinds the audiovisual data selected in S3 described hereinbefore. The audiovisual fast-rewind signal is input by utilizing Input Device 210 (FIG. 1) or via voice recognition system (S1). CPU 211 (FIG. 1) then fast-rewinds the audiovisual data selected in S3 described hereinbefore (S2), and retrieves Fast-Rewind Message Text Data 20632$b2f$ from Message Data Storage Area 20632$b2$ and displays the data on LCD 201 (FIG. 1) for a specified period of time (S3).

This paragraph illustrates Audiovisual Next Software 20632$c7$ stored in Audiovisual Playback Software Storage Area 20632c which initiates the playback process of the next audiovisual data stored in Audiovisual Data Storage Area 20632$b1$. The audiovisual next signal is input by utilizing Input Device 210 (FIG. 1) or via voice recognition system (S1). CPU 211 (FIG. 1) then initiates the playback process of the next audiovisual data of the audiovisual data selected in S3 described hereinbefore both of which are stored in Audiovisual Data Storage Area 20632$b1$ (S2), and retrieves Next Message Text Data 20632$b2g$ from Message Data Storage Area 20632$b2$ and displays the data on LCD 201 (FIG. 1) for a specified period of time (S3).

This paragraph illustrates Audiovisual Previous Software 20632$c8$ is a software program which initiates the playback process of the previous audiovisual data stored in Audiovisual Data Storage Area 20632$b1$. The audiovisual previous signal is input by utilizing Input Device 210 (FIG. 1) or via voice recognition system (S1). CPU 211 (FIG. 1) then initiates the playback process of the previous audiovisual data of the

audiovisual data selected in S3 described hereinbefore both of which are stored in Audiovisual Data Storage Area 20632$b1$ (S2), and retrieves Previous Message Text Data 20632$b2h$ from Message Data Storage Area 20632$b2$ and displays the data on LCD 201 (FIG. 1) for a specified period of time (S3).

As another embodiment, the audiovisual data stored in Audiovisual Data Storage Area 20632$b1$ may be stored in Host H and retrieved therefrom when the software programs described hereinbefore are executed. In this embodiment, the audio data is temporarily stored in RAM 206 (FIG. 1) and is erased from the portion which is playbacked.

<<Audio Playback Function>>

The following paragraphs illustrate the audio playback function which enables Communication Device 200 to playback audio data, such as jazz music, rock music, classic music, pops music, and any other types of audio data.

This paragraph illustrates the information stored in RAM 206 (FIG. 1). In this embodiment, RAM 206 includes Audio Playback Information Storage Area 20633a of which the information stored therein are described hereinafter.

The data and/or the software programs necessary to implement the present function may be downloaded to Communication Device 200 from Host H.

This paragraph illustrates the data and software programs stored in Audio Playback Information Storage Area 20633a. In this embodiment, Audio Playback Information Storage Area 20633a includes Audio Playback Data Storage Area 20633b and Audio Playback Software Storage Area 20633c. Audio Playback Data Storage Area 20633b stores the data necessary to implement the present function, such as the ones described hereinafter. Audio Playback Software Storage Area 20633c stores the software programs necessary to implement the present function, such as the ones described hereinafter.

This paragraph illustrates the data stored in Audio Playback Data Storage Area 20633b. In this embodiment, Audio Playback Data Storage Area 20633b includes Audio Data Storage Area 20633$b1$ and Message Data Storage Area 20633$b2$. Audio Data Storage Area 20633$b1$ stores a plurality of audio data described hereinafter. Message Data Storage Area 20633$b2$ stores a plurality of message data described hereinafter.

This paragraph illustrates the audio data stored in Audio Data Storage Area 20633$b1$. In this embodiment, Audio Data Storage Area 20633$b1$ stores a plurality of audio data wherein the audio data stored therein in the present example are: Audio Data 20633$b1a$, Audio Data 20633$b1b$, Audio Data 20633$b1c$, and Audio Data 20633$b1d$, all of which are primarily composed of video data and audio data. Audio Data 20633$b1a$ is a jazz music, Audio Data 20633$b1b$ is a rock music, Audio Data 20633$b1c$ is a classic music, Audio Data 20633$b1d$ is a pops music in the present embodiment. As another embodiment, Audio Data 20633$b1d$ may be an audio data taken via CCD Unit 214 (FIG. 1) and Microphone 215 (FIG. 1).

This paragraph illustrates the data stored in Message Data Storage Area 20633$b2$. In this embodiment, Message Data Storage Area 20633$b2$ includes Start Message Text Data 20633$b2a$, Stop Message Text Data 20633$b2b$, Pause Message Text Data 20633$b2c$, Resume Message Text Data 20633$b2c1$, Slow Replay Message Text Data 20633$b2d$, Forward Message Text Data 20633$b2e$, Rewind Message Text Data 20633$b2f$, Next Message Text Data 20633$b2g$, and Previous Message Text Data 20633$b2h$. Start Message Text Data 20633$b2a$ is a text data which is displayed on LCD 201 (FIG. 1) and which indicates that the playback of an audio data is initiated. Stop Message Text Data 20633$b2b$ is a text data

which is displayed on LCD **201** and which indicates that the playback process of an audio data is stopped. Pause Message Text Data **20633***b*2*c* is a text data which is displayed on LCD **201** and which indicates that the playback process of an audio data is paused. Resume Message Text Data **20633***b*2*c***1** is a text data which is displayed on LCD **201** and which indicates that the playback process of an audio data is resumed from the point it is paused. Slow Replay Message Text Data **20633***b*2*d* is a text data which is displayed on LCD **201** and which indicates that the playback process of an audio data is implemented in a slow motion. Fast-Forward Message Text Data **20633***b*2*e* is a text data which is displayed on LCD **201** and which indicates that an audio data is fast-forwarded. Fast-Rewind Message Text Data **20633***b*2*f* is a text data which is displayed on LCD **201** and which indicates that an audio data is fast-rewinded. Next Message Text Data **20633***b*2*g* is a text data which is displayed on LCD **201** and which indicates that the playback process of the next audio data stored in Audio Data Storage Area **20633***b*1 is initiated. Previous Message Text Data **20633***b*2*h* is a text data which is displayed on LCD **201** and which indicates that the playback process of the previous audio data stored in Audio Data Storage Area **20633***b*1 is initiated.

This paragraph illustrates the software programs stored in Audio Playback Software Storage Area **20633***c*. In this embodiment, Audio Playback Software Storage Area **20633***c* includes Audio Start Software **20633***c*1, Audio Stop Software **20633***c*2, Audio Pause Software **20633***c*3, Audio Resume Software **20633***c*3*a*, Audio Slow Replay Software **20633***c*4, Audio Fast-Forward Software **20633***c*5, Audio Fast-Rewind Software **20633***c*6, Audio Next Software **20633***c*7, and Audio Previous Software **20633***c*8. Audio Start Software **20633***c*1 is a software program which initiates the playback process of an audio data. Audio Stop Software **20633***c*2 is a software program which stops the playback process of an audio data. Audio Pause Software **20633***c*3 is a software program which pauses the playback process of an audio data. Audio Resume Software **20633***c*3*a* is a software program which resumes the playback process of the audio data from the point it is paused by Audio Pause Software **20633***c*3. Audio Slow Replay Software **20633***c*4 is a software program which implements the playback process of an audio data in a slow motion. Audio Fast-Forward Software **20633***c*5 is a software program which fast-forwards an audio data. Audio Fast-Rewind Software **20633***c*6 is a software program which fast-rewinds an audio data. Audio Next Software **20633***c*7 is a software program which initiates the playback process of the next audio data stored in Audio Data Storage Area **20633***b*1. Audio Previous Software **20633***c*8 is a software program which initiates the playback process of the previous audio data stored in Audio Data Storage Area **20633***b*1.

This paragraph illustrates the messages displayed on LCD **201** (FIG. **1**). In this embodiment, eight types of messages are displayed on LCD **201**, i.e., 'Start', 'Stop', 'Pause', 'Resume', 'Slow Reply', 'Fast-Forward', 'Fast-Rewind', 'Next', and 'Previous'. 'Start' is Start Message Text Data **20633***b*2*a*, 'Stop' is Stop Message Text Data **20633***b*2*b*, 'Pause' is Pause Message Text Data **20633***b*2*c*, 'Resume' is Resume Message Text Data **20633***b*2*c*1, 'Slow Reply' is Slow Replay Message Text Data **20633***b*2*d*, 'Fast-Forward' is Fast-Forward Message Text Data **20633***b*2*e*, 'Fast-Rewind' is Fast-Rewind Message Text Data **20633***b*2*f*, 'Next' is Next Message Text Data **20633***b*2*g*, 'Previous' is Previous Message Text Data **20633***b*2*h* described hereinbefore.

This paragraph illustrates Audio Selecting Software **20633***c*9 stored in Audio Playback Software Storage Area **20633***c* in preparation of executing the software programs

described hereinafter. In this embodiment, CPU **211** (FIG. **1**) retrieves the identifications of the audio data stored in Audio Data Storage Area **20633***b*1 (S1). CPU **211** then displays a list of the identifications on LCD **201** (FIG. **1**) (S2). A particular audio data is selected by utilizing Input Device **210** (FIG. **1**) or via voice recognition system (S3).

This paragraph and the following paragraphs illustrate the software programs stored in Audio Playback Software Storage Area **20633***c*. As described in each drawing figure hereinafter, eight types of input signals can be input by utilizing Input Device **210** (FIG. **1**) or via voice recognition system, i.e., the audio playback signal, the audio stop signal, the audio pause signal, the audio resume signal, the audio slow replay signal, the audio fast-forward signal, the audio fast-rewind signal, the audio next signal, and the audio previous signal. The audio playback signal indicates to initiate the playback process of the audio data selected in S3 described hereinbefore. The audio stop signal indicates to stop the playback process of the audio data selected in S3 described hereinbefore. The audio pause signal indicates to pause the playback process of the audio data selected in S3 described hereinbefore. The audio resume signal indicates to resume the playback process of the audio data selected in S3 described hereinbefore from the point the audio data is paused. The audio slow replay signal indicates to implement the playback process of the audio data selected in S3 described hereinbefore in a slow motion. The audio fast-forward signal indicates to fast-forward the audio data selected in S3 described hereinbefore. The audio fast-rewind signal indicates to fast-rewind the audio data selected in S3 described hereinbefore. The audio next signal indicates to initiate the playback process of the next audio data of the audio data selected in S3 described hereinbefore both of which are stored in Audio Data Storage Area **20633***b*1. The audio previous signal indicates to initiate the playback process of the previous audio data of the audio data selected in S3 described hereinbefore both of which are stored in Audio Data Storage Area **20633***b*1.

This paragraph illustrates Audio Start Software **20633***c*1 stored in Audio Playback Software Storage Area **20633***c* which initiates the playback process of the audio data selected in S3 described hereinbefore. In this embodiment, the audio playback signal is input by utilizing Input Device **210** (FIG. **1**) or via voice recognition system (S1). CPU **211** (FIG. **1**) then initiates the playback process (i.e., outputs the audio data from Speaker **216** (FIG. **1**)) of the audio data selected in S3 described hereinbefore (S2), and retrieves Start Message Text Data **20633***b*2*a* from Message Data Storage Area **20633***b*2 and displays the data on LCD **201** (FIG. **1**) for a specified period of time (S3).

This paragraph illustrates Audio Stop Software **20633***c*2 stored in Audio Playback Software Storage Area **20633***c* which stops the playback process of the audio data selected in S3 described hereinbefore. In this embodiment, the audio stop signal is input by utilizing Input Device **210** (FIG. **1**) or via voice recognition system (S1). CPU **211** (FIG. **1**) then stops the playback process of the audio data selected in S3 described hereinbefore (S2), and retrieves Stop Message Text Data **20633***b*2*b* from Message Data Storage Area **20633***b*2 and displays the data on LCD **201** (FIG. **1**) for a specified period of time (S3).

This paragraph illustrates Audio Pause Software **20633***c*3 stored in Audio Playback Software Storage Area **20633***c* which pauses the playback process of the audio data selected in S3 described hereinbefore. In this embodiment, the audio pause signal is input by utilizing Input Device **210** (FIG. **1**) or via voice recognition system (S1). CPU **211** (FIG. **1**) then pauses the playback process of the audio data selected in S3

described hereinbefore (S2), and retrieves Pause Message Text Data 20633b2c from Message Data Storage Area 20633b2 and displays the data on LCD 201 (FIG. 1) for a specified period of time (S3) When the playback process is paused in S2, the audio data included in the audio data is refrained from being output from Speaker 216 (FIG. 1).

This paragraph illustrates Audio Resume Software 20633c3a stored in Audio Playback Software Storage Area 20633c which resumes the playback process of the audio data selected in S3 described hereinbefore from the point the audiovisual data is paused in S2 described hereinbefore. In this embodiment, the audio resume signal is input by utilizing Input Device 210 (FIG. 1) or via voice recognition system (S1). CPU 211 (FIG. 1) then resumes the playback process of the audio data selected in S3 described hereinbefore from the point the audiovisual data is paused in S2 described hereinbefore (S2), and retrieves Resume Message Text Data 20633b2c1 from Message Data Storage Area 20633b2 and displays the data on LCD 201 (FIG. 1) for a specified period of time (S3).

This paragraph illustrates Audio Slow Replay Software 20633c4 stored in Audio Playback Software Storage Area 20633c which implements the playback process of the audio data selected in S3 described hereinbefore in a slow motion. In this embodiment, the audio slow replay signal is input by utilizing Input Device 210 (FIG. 1) or via voice recognition system (S1). CPU 211 (FIG. 1) then initiates the playback process of the audio data selected in S3 described hereinbefore in a slow motion (S2), and retrieves Slow Replay Message Text Data 20633b2d from Message Data Storage Area 20633b2 and displays the data on LCD 201 (FIG. 1) for a specified period of time (S3).

This paragraph illustrates Audio Fast-Forward Software 20633c5 stored in Audio Playback Software Storage Area 20633c which fast-forwards the audio data selected in S3 described hereinbefore. In this embodiment, the audio fast-forward signal is input by utilizing Input Device 210 (FIG. 1) or via voice recognition system (S1). CPU 211 (FIG. 1) then fast-forwards the audio data selected in S3 described hereinbefore (S2), and retrieves Fast-Forward Message Text Data 20633b2e from Message Data Storage Area 20633b2 and displays the data on LCD 201 (FIG. 1) for a specified period of time (S3).

This paragraph illustrates Audio Fast-Rewind Software 20633c6 stored in Audio Playback Software Storage Area 20633c which fast-rewinds the audio data selected in S3 described hereinbefore. In this embodiment, the audio fast-rewind signal is input by utilizing Input Device 210 (FIG. 1) or via voice recognition system (S1). CPU 211 (FIG. 1) then fast-rewinds the audio data selected in S3 described hereinbefore (S2), and retrieves Fast-Rewind Message Text Data 20633b2f from Message Data Storage Area 20633b2 and displays the data on LCD 201 (FIG. 1) for a specified period of time (S3).

This paragraph illustrates Audio Next Software 20633c7 stored in Audio Playback Software Storage Area 20633c which initiates the playback process of the next audio data stored in Audio Data Storage Area 20633b1. In this embodiment, the audio next signal is input by utilizing Input Device 210 (FIG. 1) or via voice recognition system (S1). CPU 211 (FIG. 1) then initiates the playback process of the next audio data of the audio data selected in S3 described hereinbefore both of which are stored in Audio Data Storage Area 20633b1 (S2), and retrieves Next Message Text Data 20633b2g from Message Data Storage Area 20633b2 and displays the data on LCD 201 (FIG. 1) for a specified period of time (S3).

This paragraph illustrates Audio Previous Software 20633c8 is a software program which initiates the playback process of the previous audio data stored in Audio Data Storage Area 20633b1. In this embodiment, the audio previous signal is input by utilizing Input Device 210 (FIG. 1) or via voice recognition system (S1). CPU 211 (FIG. 1) then initiates the playback process of the previous audio data of the audio data selected in S3 described hereinbefore both of which are stored in Audio Data Storage Area 20633b1 (S2), and retrieves Previous Message Text Data 20633b2h from Message Data Storage Area 20633b2 and displays the data on LCD 201 (FIG. 1) for a specified period of time (S3).

As another embodiment, the audio data stored in Audio Data Storage Area 20633b1 may be stored in Host H and retrieved therefrom when the software programs described hereinbefore are executed. In this embodiment, the audio data is temporarily stored in RAM 206 (FIG. 1) and is erased from the portion which is playbacked.

<<Digital Camera Function>>

The following paragraphs illustrate the digital camera function which enables Communication Device 200 to take digital photos by utilizing CCD Unit 214 (FIG. 1).

This paragraph illustrates the storage area included in RAM 206 (FIG. 1). In this embodiment, RAM 206 includes Digital Camera Information Storage Area 20646a of which the data and the software programs stored therein are described hereinafter.

The data and software programs stored in Digital Camera Information Storage Area 20646a may be downloaded from Host H.

This paragraph illustrates the storage areas included in Digital Camera Information Storage Area 20646a. In this embodiment, Digital Camera Information Storage Area 20646a includes Digital Camera Data Storage Area 20646b and Digital Camera Software Storage Area 20646c. Digital Camera Data Storage Area 20646b stores the data necessary to implement the present function, such as the ones described hereinafter. Digital Camera Software Storage Area 20646c stores the software programs necessary to implement the present function, such as the ones described hereinafter.

This paragraph illustrates the storage areas included in Digital Camera Data Storage Area 20646b. In this embodiment, Digital Camera Data Storage Area 20646b includes Photo Data Storage Area 20646b1 and Digital Camera Function Data Storage Area 20646b2. Photo Data Storage Area 20646b1 stores the data described hereinafter. Digital Camera Function Data Storage Area 20646b2 stores the data stored hereinafter.

This paragraph illustrates the data stored in Photo Data Storage Area 20646b1. In this embodiment, Photo Data Storage Area 20646b1 comprises two columns, i.e., 'Photo ID' and 'Photo Data'. Column 'Photo ID' stores the identifications of the photo data, and column 'Photo Data' stores a plurality of photo data taken by implementing the present function. In the example described in the present drawing, Photo Data Storage Area 20646b1 stores the following data: 'Photo ID' Photo #1 of which the 'Photo Data' is 46PD1; 'Photo ID' Photo #2 of which the 'Photo Data' is 46PD2; 'Photo ID' Photo #3 of which the 'Photo Data' is 46PD3; 'Photo ID' Photo #4 of which the 'Photo Data' is 46PD4; and 'Photo ID' Photo #5 of which the 'Photo Data' is 46PD5.

This paragraph illustrates the storage areas included in Digital Camera Function Data Storage Area 20646b2. In this embodiment, Digital Camera Function Data Storage Area 20646b2 includes Quality Data Storage Area 20646b2a, Multiple Photo Shooting Number Data Storage Area 20646b2b, and Strobe Data Storage Area 20646b2c. Quality Data Stor-

age Area **20646***b2a* stores the data selected in S2 described hereinafter. Multiple Photo Shooting Number Data Storage Area **20646***b2b* stores the data selected in S2 described hereinafter. Strobe Data Storage Area **20646***b2c* stores the data selected in S2 described hereinafter.

This paragraph illustrates the software programs stored in Digital Camera Software Storage Area **20646***c*. In this embodiment, Digital Camera Software Storage Area **20646***c* stores Quality Selecting Software **20646***c1*, Multiple Photo Shooting Software **20646***c2*, Trimming Software **20646***c3*, Digital Zooming Software **20646***c4*, Strobe Software **20646***c5*, Digital Camera Function Selecting Software **20646***c6*, Multiple Photo Shooting Number Selecting Software **20646***c7*, Strobe On/Off Selecting Software **20646***c8*, Photo Data Shooting Software **20646***c9*, and Multiple Photo Shooting Software **20646***c10*. Quality Selecting Software **20646***c1* is the software program described hereinafter. Multiple Photo Shooting Software **20646***c2* is the software program described hereinafter. Trimming Software **20646***c3* is the software program described hereinafter. Digital Zooming Software **20646***c4* is the software program described hereinafter. Strobe Software **20646***c5* is the software program described hereinafter. Digital Camera Function Selecting Software **20646***c6* is the software program described hereinafter. Multiple Photo Shooting Number Selecting Software **20646***c7* is the software program described hereinafter. Strobe On/Off Selecting Software **20646***c8* is the software program described hereinafter. Photo Data Shooting Software **20646***c9* is the software program described hereinafter.

This paragraph illustrates Digital Camera Function Selecting Software **20646***c6* stored in Digital Camera Software Storage Area **20646***c* which administers the overall flow of displaying the functions and selecting the option for each function. In this embodiment, a list of functions is displayed on LCD **201** (FIG. **1**) (S1). The items displayed on LCD **201** are 'Quality', 'Multiple Photo', and 'Strobe'. A function is selected by utilizing Input Device **210** (FIG. **1**) or via voice recognition system (S2), and the relevant software program is activated thereafter (S3). In the present embodiment, Quality Selecting Software **20646***c1* described hereinafter is activated when 'Quality' displayed on LCD **201** is selected in S2. Multiple Photo Shooting Number Selecting Software **20646***c7* described hereinafter is activated when 'Multiple Photo' is selected in S2. Strobe On/Off Selecting Software **20646***c8* described hereinafter is activated when 'Strobe' is selected in S2.

This paragraph illustrates Quality Selecting Software **20646***c1* stored in Digital Camera Software Storage Area **20646***c* which selects the quality of the photo data taken by implementing the present function. In this embodiment, a list of options is displayed on LCD **201** (FIG. **1**) (S1). The options displayed on LCD **201** are 'High', 'STD', and 'Low' in the present embodiment. One of the options is selected by utilizing Input Device **210** (FIG. **1**) or via voice recognition system (S2). The resolution of the photo data taken is high if 'High' is selected; the resolution of the photo taken is standard if 'STD' is selected; and the resolution of the photo taken is low if 'Low' is selected. The selected option is stored as the quality data in Quality Data Storage Area **20646***b2a* (S3).

This paragraph illustrates Multiple Photo Shooting Number Selecting Software **20646***c7* stored in Digital Camera Software Storage Area **20646***c* which selects the number of photos taken by a single photo shooting signal. In this embodiment, a list of options is displayed on LCD **201** (FIG. **1**) (S1). The options displayed on LCD **201** are figures from '1' through '10'. Only one photo is taken by a photo shooting signal if '1' is selected; two photos are taken by a photo

shooting signal if '2' is selected; three photos are taken by a photo shooting signal if '3' is selected; four photos are taken by a photo shooting signal if '4' is selected; five photos are taken by a photo shooting signal if '5' is selected; six photos are taken by a photo shooting signal if '6' is selected; seven photos are taken by a photo shooting signal if '7' is selected; eight photos are taken by a photo shooting signal if '8' is selected; nine photos are taken by a photo shooting signal if '9' is selected; and ten photos are taken by a photo shooting signal if '10' is selected. A digit from '1' through '10' is selected by utilizing Input Device **210** (FIG. **1**) or via voice recognition system (S2). The selected digital is stored as the multiple photo shooting number data in Multiple Photo Shooting Number Data Storage Area **20646***b2b* (S3).

This paragraph illustrates Strobe On/Off Selecting Software **20646***c8* stored in Digital Camera Software Storage Area **20646***c* which selects Flash Light Unit **220** (not shown) to be activated or not when a photo is taken. In this embodiment, a list of options is displayed on LCD **201** (FIG. **1**) (S1). The options displayed on LCD **201** are 'On' and 'Off'. Flash Light Unit **220** is activated at the time photo is taken if 'On' is selected; and Flash Light Unit **220** is not activated at the time photo is taken if 'Off' is selected. One of the two options is selected by utilizing Input Device **210** (FIG. **1**) or via voice recognition system (S2). The selected option is stored as the strobe data in Strobe Data Storage Area **20646***b2c* (S3).

This paragraph illustrates Photo Data Shooting Software **20646***c9* stored in Digital Camera Software Storage Area **20646***c* which takes photo(s) in accordance with the options selected hereinbefore. In this embodiment, a photo shooting signal is input by utilizing Input Device **210** (FIG. **1**) or via voice recognition system (S1). Here, the photo shooting signal indicates CPU **211** (FIG. **1**) to input photo data to CCD Unit **214** (FIG. **1**) and store the data in Photo Data Storage Area **20646***b1*. CPU **211** then retrieves the quality data from Quality Data Storage Area **20646***b2a* (S2). The photo data is input via CCD Unit **214** (S3), and the data is stored in Photo Data Storage Area **20646***b1* with new photo ID in accordance with the quality data retrieved in S2 (S4).

This paragraph illustrates Multiple Photo Shooting Software **20646***c2* stored in Digital Camera Software Storage Area **20646***c* which takes photo(s) in accordance with the options selected hereinbefore. In this embodiment, a photo shooting signal is input by utilizing Input Device **210** (FIG. **1**) or via voice recognition system (S1). CPU **211** (FIG. **1**) retrieves the multiple photo shooting number data from Multiple Photo Shooting Number Data Storage Area **20646***b2b* (S2). CPU **211** then takes photos in accordance with the multiple photo shooting number data retrieved in S2 (S3). Namely, only one photo is taken by a photo shooting signal if the multiple photo shooting number data retrieved in S2 is '1'; two photos are taken by a photo shooting signal if the multiple photo shooting number data retrieved in S2 is '2'; three photos are taken by a photo shooting signal if the multiple photo shooting number data retrieved in S2 is '3'; four photos are taken by a photo shooting signal if the multiple photo shooting number data retrieved in S2 is '4'; five photos are taken by a photo shooting signal if the multiple photo shooting number data retrieved in S2 is '5'; six photos are taken by a photo shooting signal if the multiple photo shooting number data retrieved in S2 is '6'; seven photos are taken by a photo shooting signal if the multiple photo shooting number data retrieved in S2 is '7'; eight photos are taken by a photo shooting signal if the multiple photo shooting number data retrieved in S2 is '8'; nine photos are taken by a photo shooting signal if the multiple photo shooting number data

retrieved in S2 is '9'; and ten photos are taken by a photo shooting signal if the multiple photo shooting number data retrieved in S2 is '10'.

This paragraph illustrates Strobe Software 20646c5 stored in Digital Camera Software Storage Area 20646c which takes photo(s) in accordance with the options selected hereinbefore. In this embodiment, a photo shooting signal is input by utilizing Input Device 210 (FIG. 1) or via voice recognition system (S1). CPU 211 (FIG. 1) retrieves the strobe data from Strobe Data Storage Area 20646b2c (S2). If the strobe data is 'On' (S3), CPU 211 activates Flash Light Unit 220 (not shown) each time a photo is taken (S4). In other words, Strobe Software 20646c5 is harmonized with Multiple Photo Shooting Software 20646c2 described hereinbefore. Namely, Flash Light Unit 220 is activated for one time if one photo is taken by a single photo shooting signal. Flash Light Unit 220 is activated for two times if two photos are taken by a single photo shooting signal. Flash Light Unit 220 is activated for three times if three photos are taken by a single photo shooting signal. Flash Light Unit 220 is activated for four times if four photos are taken by a single photo shooting signal. Flash Light Unit 220 is activated for five times if five photos are taken by a single photo shooting signal. Flash Light Unit 220 is activated for six times if six photos are taken by a single photo shooting signal. Flash Light Unit 220 is activated for seven times if seven photos are taken by a single photo shooting signal. Flash Light Unit 220 is activated for eight times if eight photos are taken by a single photo shooting signal. Flash Light Unit 220 is activated for nine times if nine photos are taken by a single photo shooting signal. Flash Light Unit 220 is activated for ten times if ten photos are taken by a single photo shooting signal.

This paragraph illustrates one embodiment of the zooming function which zooms the photo data stored in Photo Data Storage Area 20646b1. In this embodiment, a certain photo selected by the user of Communication Device 200 is displayed on LCD 201 (FIG. 1). Assuming that the user intends to zoom Object 20646Obj, the object displayed on LCD 201, to a larger size. The user selects Area 46ARa which includes Object 20646Obj by utilizing Input Device 210 (FIG. 1) or via voice recognition system, and the selected area is zoomed to fit the size of LCD 201. The zoomed photo is replaced with the original photo.

This paragraph illustrates the operation performed in RAM 206 (FIG. 1) to implement the zooming function described hereinbefore. A certain photo data selected by the user of Communication Device 200 is stored in Area 20646ARa of RAM 206. Here, the size of the photo data is as same as that of Area 20646ARa. In this embodiment, Display Area 20646DA is the area which is displayed on LCD 201 (FIG. 1). Area 46ARa is the area which is selected by the user of Communication Device 200. Object 20646Obj is the object included in the photo data. Area 46ARa which includes Object 20646Obj is selected by utilizing Input Device 210 (FIG. 1) or via voice recognition system, and the photo data stored in Area 20646ARa is zoomed to the size in which the size of Area 46ARa equals to that of Display Area 20646DA. The zoomed photo data is replaced with the original photo data and stored in Photo Data Storage Area 20646b1. The portion of the photo data which does not fit Area 20646ARa is cropped.

This paragraph illustrates Digital Zooming Software 20646c4 stored in Digital Camera Software Storage Area 20646c which implements the operation described hereinbefore. In this embodiment, CPU 211 (FIG. 1) displays a list of the photo IDs representing the photo data stored in Photo Data Storage Area 20646b1 as well as the thumbnails (S1). A

certain photo data is selected by utilizing Input Device 210 (FIG. 1) or via voice recognition system (S2), and the selected photo data is displayed on LCD 201 (FIG. 1) as described hereinbefore (S3). Area 46ARa described hereinbefore is selected by utilizing Input Device 210 or via voice recognition system (S4). When a zooming signal is input by utilizing Input Device 210 or via voice recognition system (S5), CPU 211 (FIG. 1) implements the process described hereinbefore and replaces the original photo data with the zoomed photo data, which is stored in Photo Data Storage Area 20646b1 (S6).

This paragraph illustrates one embodiment of the trimming function which trims the photo data stored in Photo Data Storage Area 20646b1 and thereby moves the selected object to the center of the photo data. In this embodiment, a certain photo selected by the user of Communication Device 200 is displayed on LCD 201 (FIG. 1). Point 20646PTa adjacent to Object 20646Obj is selected by utilizing Input Device 210 (FIG. 1) or via voice recognition system, and the photo is centered at Point 20646PTa. The trimmed photo is replaced with the original photo.

This paragraph illustrates the operation performed in RAM 206 (FIG. 1) to implement the trimming function described hereinbefore. In this embodiment, Display Area 20646DA is the portion of the photo data which is displayed on LCD 201 (FIG. 1). Object 20646Obj is the object included in the photo data. Point 20646PTa is the point selected by the user of Communication Device 200 adjacent to Object 20646Obj which is centered by the present function. In this embodiment, a certain photo data selected by the user of Communication Device 200 is stored in Area 20646ARb of RAM 206. Here, the size of the photo data is as same as that of Area 20646ARb. Point 20646PTa is selected by utilizing Input Device 210 (FIG. 1) or via voice recognition system, and the photo data is centered at Point 20646PTa by sliding the entire photo data to the right. The trimmed photo data is replaced with the original photo data and stored in Photo Data Storage Area 20646b1. The portion of the photo data which does not fit Area 20646ARa is cropped.

This paragraph illustrates Trimming Software 20646c3 stored in Digital Camera Software Storage Area 20646c which implements the operation described hereinbefore. In this embodiment, CPU 211 (FIG. 1) displays a list of the photo IDs representing the photo data stored in Photo Data Storage Area 20646b1 as well as the thumbnails (S1). A certain photo data is selected by utilizing Input Device 210 (FIG. 1) or via voice recognition system (S2), and the selected photo data is displayed on LCD 201 (FIG. 1) as described hereinbefore (S3). Point 20646PTa described hereinbefore is selected by utilizing Input Device 210 or via voice recognition system (S4). When a trimming signal is input by utilizing Input Device 210 or via voice recognition system (S5), CPU 211 (FIG. 1) centers the photo data at Point 20646PTa and replaces the original photo data with the trimmed photo data, which is stored in Photo Data Storage Area 20646b1 (S6).

<<Caller's Information Displaying Function>>

The following paragraphs illustrate the Caller's Information displaying function which displays the Information regarding the caller (e.g., name, phone number, email address, and home address, etc.) on LCD 201 (FIG. 1) when Communication Device 200 is utilized as a 'TV phone'.

The first set of paragraphs hereinafter illustrate the data and software programs stored in RAM 206 (FIG. 1) of Caller's Device, a Communication Device 200, utilized by the caller.

The second set of paragraphs hereinafter illustrate the data and software programs stored in RAM 206 (FIG. 1) of Callee's Device, a Communication Device 200, utilized by the callee.

The third set of paragraphs hereinafter illustrate the data and software programs stored in Host H.

This paragraph illustrates the storage area included in RAM 206 (FIG. 1) of Caller's Device. In the present embodiment, RAM 206 of Caller's Device includes Caller's Information Displaying Information Storage Area 20655a of which the data and the software programs stored therein are described hereinafter.

This paragraph illustrates the storage areas included in Caller's Information Displaying Information Storage Area 20655a. In the present embodiment, Caller's Information Displaying Information Storage Area 20655a includes Caller's Information Displaying Data Storage Area 20655b and Caller's Information Displaying Software Storage Area 20655c. Caller's Information Displaying Data Storage Area 20655b stores the data necessary to implement the present function on the side of Caller's Device, such as the ones described hereinafter. Caller's Information Displaying Software Storage Area 20655c stores the software programs necessary to implement the present function on the side of Caller's Device, such as the ones described hereinafter.

This paragraph illustrates the storage areas included in Caller's Information Displaying Data Storage Area 20655b. In the present embodiment, Caller's Information Displaying Data Storage Area 20655b includes Caller's Audiovisual Data Storage Area 20655b1, Callee's Audiovisual Data Storage Area 20655b2, Caller's Personal Data Storage Area 20655b3, Callee's Personal Data Storage Area 20655b4, Caller's Calculated GPS Data Storage Area 20655b5, Callee's Calculated GPS Data Storage Area 20655b6, Caller's Map Data Storage Area 20655b7, Callee's Map Data Storage Area 20655b8, and Work Area 20655b9. Caller's Audiovisual Data Storage Area 20655b1 stores the data described hereinafter. Callee's Audiovisual Data Storage Area 20655b2 stores the data described hereinafter. Caller's Personal Data Storage Area 20655b3 stores the data described hereinafter. Callee's Personal Data Storage Area 20655b4 stores the data described hereinafter. Caller's Calculated GPS Data Storage Area 20655b5 stores the caller's calculated GPS data which represents the current geographic location of Caller's Device in (x, y, z) format. Callee's Calculated GPS Data Storage Area 20655b6 stores the callee's calculated GPS data which represents the current geographic location of Callee's Device in (x, y, z) format. Caller's Map Data Storage Area 20655b7 stores the map data representing the surrounding area of the location indicated by the caller's calculated GPS data. Callee's Map Data Storage Area 20655b8 stores the map data representing the surrounding area of the location indicated by the callee's calculated GPS data. Work Area 20655b9 is a storage area utilized to perform calculation and to temporarily store data.

This paragraph illustrates the storage areas included in Caller's Audiovisual Data Storage Area 20655b1. In the present embodiment, Caller's Audiovisual Data Storage Area 20655b1 includes Caller's Audio Data Storage Area 20655b1a and Caller's Visual Data Storage Area 20655b1b. Caller's Audio Data Storage Area 20655b1a stores the caller's audio data which represents the audio data input via Microphone 215 (FIG. 1) of Caller's Device. Caller's Visual Data Storage Area 20655b1b stores the caller's visual data which represents the visual data input via CCD Unit 214 (FIG. 1) of Caller's Device.

This paragraph illustrates the storage areas included in Callee's Audiovisual Data Storage Area 20655b2. In the present embodiment, Callee's Audiovisual Data Storage Area 20655b2 includes Callee's Audio Data Storage Area 20655b2a and Callee's Visual Data Storage Area 20655b2b. Callee's Audio Data Storage Area 20655b2a stores the callee's audio data which represents the audio data sent from Callee's Device. Callee's Visual Data Storage Area 20655b2b stores the callee's visual data which represents the visual data sent from Callee's Device.

This paragraph illustrates the data stored in Caller's Personal Data Storage Area 20655b3. In the present embodiment, Caller's Personal Data Storage Area 20655b3 comprises two columns, i.e., 'Caller's Personal Data' and 'Permitted Caller's Personal Data Flag'. Column 'Caller's Personal Data' stores the caller's personal data which represent the personal data of the caller. Column 'Permitted Caller's Personal Data Flag' stores the permitted caller's personal data flag and each permitted caller's personal data flag represents whether the corresponding caller's personal data is permitted to be displayed on Callee's Device. The permitted caller's personal data flag is represented by either '1' or '0' wherein '1' indicates that the corresponding caller's personal data is permitted to be displayed on Callee's Device, and '0' indicates that the corresponding caller's personal data is not permitted to be displayed on Callee's Device. In the present embodiment, Caller's Personal Data Storage Area 20655b3 stores the following data: the caller's name and the corresponding permitted caller's personal data flag '1'; the caller's phone number and the corresponding permitted caller's personal data flag '1'; the caller's email address and the corresponding permitted caller's personal data flag '1'; the caller's home address and the corresponding permitted caller's personal data flag '1'; the caller's business address and the corresponding permitted caller's personal data flag '0'; the caller's title and the corresponding permitted caller's personal data flag '0'; the caller's hobby and the corresponding permitted caller's personal data flag '0'; the caller's blood type and the corresponding permitted caller's personal data flag '0'; the caller's gender and the corresponding permitted caller's personal data flag '0'; the caller's age and the corresponding permitted caller's personal data flag '0'; and caller's date of birth and the corresponding permitted caller's personal data flag '0'.

This paragraph illustrates the data stored in Callee's Personal Data Storage Area 20655b4. In the present embodiment, Callee's Personal Data Storage Area 20655b4 stores the callee's personal data which represent the personal data of the callee which are displayed on LCD 201 (FIG. 1) of Caller's Device. In the present embodiment, Callee's Personal Data Storage Area 20655b4 stores the callee's name and phone number.

This paragraph illustrates the software programs stored in Caller's Information Displaying Software Storage Area 20655c. In the present embodiment, Caller's Information Displaying Software Storage Area 20655c stores Permitted Caller's Personal Data Selecting Software 20655c1, Dialing Software 20655c2, Caller's Device Pin-pointing Software 20655c3, Map Data Sending/Receiving Software 20655c4, Caller's Audiovisual Data Collecting Software 20655c5, Caller's Information Sending/Receiving Software 20655c6, Callee's Information Sending/Receiving Software 20655c6a, Permitted Callee's Personal Data Displaying Software 20655c7, Map Displaying Software 20655c8, Callee's Audio Data Outputting Software 20655c9, and Callee's Visual Data Displaying Software 20655c10. Permitted Caller's Personal Data Selecting Software 20655c1 is the soft-

ware program described hereinafter. Dialing Software 20655c2 is the software program described hereinafter. Caller's Device Pin-pointing Software 20655c3 is the software program described hereinafter. Map Data Sending/Receiving Software 20655c4 is the software program described hereinafter. Caller's Audiovisual Data Collecting Software 20655c5 is the software program described hereinafter. Caller's Information Sending/Receiving Software 20655c6 is the software program described hereinafter. Callee's Information Sending/Receiving Software 20655c6a is the software program described hereinafter. Permitted Callee's Personal Data Displaying Software 20655c7 is the software program described hereinafter. Map Displaying Software 20655c8 is the software program described hereinafter. Callee's Audio Data Outputting Software 20655c9 is the software program described hereinafter. Callee's Visual Data Displaying Software 20655c10 is the software program described hereinafter.

This paragraph illustrates the storage area included in RAM 206A (FIG. 1) of Callee's Device. In the present embodiment, RAM 206A of Callee's Device includes Callee's Information Displaying Information Storage Area 20655aA of which the data and the software programs stored therein are described hereinafter.

This paragraph illustrates the storage areas included in Callee's Information Displaying Information Storage Area 20655aA. In the present embodiment, Callee's Information Displaying Information Storage Area 20655aA includes Callee's Information Displaying Data Storage Area 20655bA and Callee's Information Displaying Software Storage Area 20655cA. Callee's Information Displaying Data Storage Area 20655bA stores the data necessary to implement the present function on the side of Callee's Device, such as the ones described hereinafter. Callee's Information Displaying Software Storage Area 20655cA stores the software programs necessary to implement the present function on the side of Callee's Device, such as the ones described hereinafter.

This paragraph illustrates the storage areas included in Callee's Information Displaying Data Storage Area 20655bA. In the present embodiment, Callee's Information Displaying Data Storage Area 20655bA includes Caller's Audiovisual Data Storage Area 20655b1A, Callee's Audiovisual Data Storage Area 20655b2A, Caller's Personal Data Storage Area 20655b3A, Callee's Personal Data Storage Area 20655b4A, Caller's Calculated GPS Data Storage Area 20655b5A, Callee's Calculated GPS Data Storage Area 20655b6A, Caller's Map Data Storage Area 20655b7A, Callee's Map Data Storage Area 20655b8A, and Work Area 20655b9A. Caller's Audiovisual Data Storage Area 20655b1A stores the data described hereinafter. Callee's Audiovisual Data Storage Area 20655b2A stores the data described hereinafter. Caller's Personal Data Storage Area 20655b3A stores the data described hereinafter. Callee's Personal Data Storage Area 20655b4A stores the data described hereinafter. Caller's Calculated GPS Data Storage Area 20655b5A stores the caller's calculated GPS data which represents the current geographic location of Caller's Device in (x, y, z) format. Callee's Calculated GPS Data Storage Area 20655b6A stores the callee's calculated GPS data which represents the current geographic location of Callee's Device in (x, y, z) format. Caller's Map Data Storage Area 20655b7A stores the map data representing the surrounding area of the location indicated by the caller's calculated GPS data. Callee's Map Data Storage Area 20655b8A stores the map data representing the surrounding area of the location indi-

cated by the callee's calculated GPS data. Work Area 20655b9A is a storage area utilized to perform calculation and to temporarily store data.

This paragraph illustrates the storage areas included in Caller's Audiovisual Data Storage Area 20655b1A. In the present embodiment, Caller's Audiovisual Data Storage Area 20655b1A includes Caller's Audio Data Storage Area 20655b1aA and Caller's Visual Data Storage Area 20655b1bA. Caller's Audio Data Storage Area 20655b1aA stores the caller's audio data which represents the audio data sent from Caller's Device in a wireless fashion. Caller's Visual Data Storage Area 20655b1bA stores the caller's visual data which represents the visual data input sent from Caller's Device in a wireless fashion.

This paragraph illustrates the storage areas included in Callee's Audiovisual Data Storage Area 20655b2A. In the present embodiment, Callee's Audiovisual Data Storage Area 20655b2A includes Callee's Audio Data Storage Area 20655b2aA and Callee's Visual Data Storage Area 20655b2bA. Callee's Audio Data Storage Area 20655b2aA stores the callee's audio data which represents the audio data input via Microphone 215 (FIG. 1) of Callee's Device. Callee's Visual Data Storage Area 20655b2bA stores the callee's visual data which represents the visual data input via CCD Unit 214 (FIG. 1) of Callee's Device.

This paragraph illustrates the data stored in Caller's Personal Data Storage Area 20655b3A. In the present embodiment, Caller's Personal Data Storage Area 20655b3A stores the caller's personal data which represent the personal data of the caller which are displayed on LCD 201 (FIG. 1) of Caller's Device. In the present embodiment, Caller's Personal Data Storage Area 20655b3A stores the caller's name, phone number, email address, and home address.

This paragraph illustrates the data stored in Callee's Personal Data Storage Area 20655b4A. In the present embodiment, Callee's Personal Data Storage Area 20655b4A comprises two columns, i.e., 'Callee's Personal Data' and 'Permitted Callee's Personal Data Flag'. Column 'Callee's Personal Data' stores the callee's personal data which represent the personal data of the callee. Column 'Permitted Callee's Personal Data Flag' stores the permitted callee's personal data flag and each permitted callee's personal data flag represents whether the corresponding callee's personal data is permitted to be displayed on Caller's Device. The permitted callee's personal data flag is represented by either '1' or '0' wherein '1' indicates that the corresponding callee's personal data is permitted to be displayed on Caller's Device, and '0' indicates that the corresponding callee's personal data is not permitted to be displayed on Caller's Device. In the present embodiment, Callee's Personal Data Storage Area 20655b4A stores the following data: callee's name and the corresponding permitted callee's personal data flag '1'; the callee's phone number and the corresponding permitted callee's personal data flag '1'; the callee's email address and the corresponding permitted caller's personal data flag '0'; the callee's home address and the corresponding permitted callee's personal data flag '0'; the callee's business address and the corresponding permitted callee's personal data flag '0'; the callee's title and the corresponding permitted callee's personal data flag '0'; the callee's hobby and the corresponding permitted callee's personal data flag '0'; the callee's blood type and the corresponding permitted callee's personal data flag '0'; the callee's gender and the corresponding permitted callee's personal data flag '0'; the callee's age and the corresponding permitted callee's personal data flag '0'; and callee's date of birth and the corresponding permitted callee's personal data flag '0'.

This paragraph illustrates the software programs stored in Callee's Information Displaying Software Storage Area 20655cA. In the present embodiment, Callee's Information Displaying Software Storage Area 20655cA stores Permitted Callee's Personal Data Selecting Software 20655c1A, Dialing Software 20655c2A, Callee's Device Pin-pointing Software 20655c3A, Map Data Sending/Receiving Software 20655c4A, Callee's Audiovisual Data Collecting Software 20655c5A, Callee's Information Sending/Receiving Software 20655c6A, Caller's Information Sending/Receiving Software 20655c6aA, Permitted Caller's Personal Data Displaying Software 20655c7A, Map Displaying Software 20655c8A, Caller's Audio Data Outputting Software 20655c9A, and Caller's Visual Data Displaying Software 20655c10A. Permitted Callee's Personal Data Selecting Software 20655c1A is the software program described hereinafter. Dialing Software 20655c2A is the software program described hereinafter. Callee's Device Pin-pointing Software 20655c3A is the software program described hereinafter. Map Data Sending/Receiving Software 20655c4A is the software program described hereinafter. Callee's Audiovisual Data Collecting Software 20655c5A is the software program described hereinafter. Callee's Information Sending/Receiving Software 20655c6A is the software program described hereinafter. Caller's Information Sending/Receiving Software 20655c6aA is the software program described hereinafter. Permitted Caller's Personal Data Displaying Software 20655c7A is the software program described hereinafter. Map Displaying Software 20655c8A is the software program described hereinafter. Caller's Audio Data Outputting Software 20655c9A is the software program described hereinafter. Caller's Visual Data Displaying Software 20655c10A is the software program described hereinafter.

This paragraph illustrates the storage area included in Host H. In the present embodiment, Host H includes Caller/Callee Information Storage Area H55a of which the data and the software programs stored therein are described hereinafter.

This paragraph illustrates the storage areas included in Caller/Callee Information Storage Area H55a. In the present embodiment, Caller/Callee Information Storage Area H55a includes Caller/Callee Data Storage Area H55b and Caller/Callee Software Storage Area H55c. Caller/Callee Data Storage Area H55b stores the data necessary to implement the present function on the side of Host H, such as the ones described hereinafter. Caller/Callee Software Storage Area H55c stores the software programs necessary to implement the present function on the side of Host H, such as the ones described hereinafter.

This paragraph illustrates the storage areas included in Caller/Callee Data Storage Area H55b. In the present embodiment, Caller/Callee Data Storage Area H55b includes Caller's Information Storage Area H55b1, Callee's Information Storage Area H55b2, Map Data Storage Area H55b3, Work Area h55b4, Caller's Calculated GPS Data Storage Area H55b5, and Callee's Calculated GPS Data Storage Area H55b6. Caller's Information Storage Area H55b1 stores the Caller's Information received Caller's Device. Callee's Information Storage Area H55b2 stores the Callee's Information received Callee's Device. Map Data Storage Area H55b3 stores the map data received from Caller's Device and Callee's Device. Work Area H55b4 is a storage area utilized to perform calculation and to temporarily store data. Caller's Calculated GPS Data Storage Area H55b5 stores the caller's calculated GPS data. Callee's Calculated GPS Data Storage Area H55b6 stores the callee's calculated GPS data.

This paragraph illustrates the software programs stored in Caller/Callee Software Storage Area H55c. In the present

embodiment, Caller/Callee Software Storage Area H55c stores Dialing Software H55c2, Caller's Device Pin-pointing Software H55c3, Callee's Device Pin-pointing Software H55c3a, Map Data Sending/Receiving Software H55c4, Caller's Information Sending/Receiving Software H55c6, and Callee's Information Sending/Receiving Software H55c6a. Dialing Software H55c2 is the software program described hereinafter. Caller's Device Pin-pointing Software H55c3 is the software program described hereinafter. Callee's Device Pin-pointing Software H55c3a is the software program described hereinafter. Map Data Sending/Receiving Software H55c4 is the software program described hereinafter. Caller's Information Sending/Receiving Software H55c6 is the software program described hereinafter. Callee's Information Sending/Receiving Software H55c6a is the software program described hereinafter.

The following paragraphs primarily illustrate the sequence to output the Caller's Information (which is defined hereinafter) from Callee's Device.

This paragraph illustrates Permitted Caller's Personal Data Selecting Software 20655c1 stored in Caller's Information Displaying Software Storage Area 20655c of Caller's Device, which selects the permitted caller's personal data to be displayed on LCD 201 (FIG. 1) of Callee's Device. In the present embodiment, CPU 211 (FIG. 1) of Caller's Device retrieves all of the caller's personal data from Caller's Personal Data Storage Area 20655b3 (S1). CPU 211 then displays a list of caller's personal data on LCD 201 (FIG. 1) (S2). The caller selects, by utilizing Input Device 210 (FIG. 1) or via voice recognition system, the caller's personal data permitted to be displayed on Callee's Device (S3). The permitted caller's personal data flag of the data selected in S3 is registered as '1' (S4).

This paragraph illustrates Dialing Software H55c2 stored in Caller/Callee Software Storage Area H55c of Host H, Dialing Software 20655c2 stored in Caller's Information Displaying Software Storage Area 20655c of Caller's Device, and Dialing Software 20655c2A stored in Callee's Information Displaying Software Storage Area 20655cA of Callee's Device, which enables to connect between Caller's Device and Callee's Device via Host H in a wireless fashion. In the present embodiment, a connection is established between Caller's Device and Host H (S1). Next, a connection is established between Host H and Callee's Device (S2). As a result, Caller's Device and Callee's Device are able to exchange audiovisual data, text data, and various types of data with each other. The connection is maintained until Caller's Device, Host H, or Callee's Device terminates the connection.

This paragraph illustrates Caller's Device Pin-pointing Software H55c3 stored in Caller/Callee Software Storage Area H55c of Host H and Caller's Device Pin-pointing Software 20655c3 stored in Caller's Information Displaying Software Storage Area 20655c of Caller's Device, which identifies the current geographic location of Caller's Device. In the present embodiment, CPU 211 (FIG. 1) of Caller's Device collects the GPS raw data from the near base stations (S1). CPU 211 sends the raw GPS data to Host H (S2). Upon receiving the raw GPS data (S3), Host H produces the caller's calculated GPS data by referring to the raw GPS data (S4). Host H stores the caller's calculated GPS data in Caller's Calculated GPS Data Storage Area H55b5 (S5). Host H then retrieves the caller's calculated GPS data from Caller's Calculated GPS Data Storage Area H55b5 (S6), and sends the data to Caller's Device (S7). Upon receiving the caller's calculated GPS data from Host H (S8), CPU 211 stores the data in Caller's Calculated GPS Data Storage Area 20655b5 (S9). Here, the GPS raw data are the primitive data utilized to

produce the caller's calculated GPS data, and the caller's calculated GPS data is the data representing the location of Caller's Device in (x, y, z) format. The sequence described in the present paragraph is repeated periodically.

This paragraph illustrates another embodiment of the sequence described hereinbefore in which the entire process is performed solely by Caller's Device Pin-pointing Software 20655c3 stored in Caller's Information Displaying Software Storage Area 20655c of Caller's Device. In the present embodiment, CPU 211 (FIG. 1) of Caller's Device collects the raw GPS data from the near base stations (S1). CPU 211 then produces the caller's calculated GPS data by referring to the raw GPS data (S2), and stores the caller's calculated GPS data in Caller's Calculated GPS Data Storage Area 20655b5 (S3). The sequence described in the present paragraph is repeated periodically.

This paragraph illustrates Map Data Sending/Receiving Software H55c4 stored in Caller/Callee Software Storage Area H55c of Host H and Map Data Sending/Receiving Software 20655c4 stored in Caller's Information Displaying Software Storage Area 20655c of Caller's Device, which sends and receives the map data. In the present embodiment, CPU 211 (FIG. 1) of Caller's Device retrieves the caller's calculated GPS data from Caller's Calculated GPS Data Storage Area 20655b5 (S1), and sends the data to Host H (S2). Upon receiving the calculated GPS data from Caller's Device (S3), Host H identifies the map data in Map Data Storage Area H55b3 (S4). Here, the map data represents the surrounding area of the location indicated by the caller's calculated GPS data. Host H retrieves the map data from Map Data Storage Area H55b3 (S5), and sends the data to Caller's Device (S6). Upon receiving the map data from Host H (S7), Caller's Device stores the data in Caller's Map Data Storage Area 20655b7 (S8). The sequence described in the present paragraph is repeated periodically.

This paragraph illustrates Caller's Audiovisual Data Collecting Software 20655c5 stored in Caller's Information Displaying Software Storage Area 20655c of Caller's Device, which collects the audiovisual data of the caller to be sent to Callee's Device via Antenna 218 (FIG. 1) thereof. CPU 211 (FIG. 1) of Caller's Device retrieves the caller's audiovisual data from CCD Unit 214 and Microphone 215 (S1). CPU 211 then stores the caller's audio data in Caller's Audio Data Storage Area 20655b1a (S2), and the caller's visual data in Caller's Visual Data Storage Area 20655b1b (S3). The sequence described in the present paragraph is repeated periodically.

This paragraph illustrates Caller's Information Sending/Receiving Software H55c6 stored in Caller/Callee Software Storage Area H55c of Host H and Caller's Information Sending/Receiving Software 20655c6 stored in Caller's Information Displaying Software Storage Area 20655c of Caller's Device, which sends and receives the Caller's Information (which is defined hereinafter) between Caller's Device and Host H. In the present embodiment, CPU 211 (FIG. 1) of Caller's Device retrieves the permitted caller's personal data from Caller's Personal Data Storage Area 20655b3 (S1). CPU 211 retrieves the caller's calculated GPS data from Caller's Calculated GPS Data Storage Area 20655b5 (S2). CPU 211 retrieves the map data from Caller's Map Data Storage Area 20655b7 (S3). CPU 211 retrieves the caller's audio data from Caller's Audio Data Storage Area 20655b1a (S4). CPU 211 retrieves the caller's visual data from Caller's Visual Data Storage Area 20655b1b (S5). CPU 211 then sends the data retrieved in S1 through S5 (collectively defined as the 'Caller's Information' hereinafter) to Host H (S6). Upon receiving the Caller's Information from Caller's Device (S7), Host H

stores the Caller's Information in Caller's Information Storage Area H55b1 (S8). The sequence described in the present paragraph is repeated periodically.

This paragraph illustrates Caller's Information Sending/Receiving Software H55c6 stored in Caller/Callee Software Storage Area H55c of Host H and Caller's Information Sending/Receiving Software 20655c6aA stored in Caller's Information Displaying Software Storage Area 20655c of Caller's Device, which sends and receives the Caller's Information between Host H and Callee's Device. In the present embodiment, Host H retrieves the Caller's Information from Caller's Information Storage Area H55b1 (S1), and sends the Caller's Information to Callee's Device (S2). CPU 211 (FIG. 1) of Callee's Device receives the Caller's Information from Host H (S3). CPU 211 stores the permitted caller's personal data in Caller's Personal Data Storage Area 20655b3A (S4). CPU 211 stores the caller's calculated GPS data in Caller's Calculated GPS Data Storage Area 20655b5A (S5). CPU 211 stores the map data in Caller's Map Data Storage Area 20655b7A (S6). CPU 211 stores the caller's audio data in Caller's Audio Data Storage Area 20655b1aA (S7). CPU 211 stores the caller's visual data in Caller's Visual Data Storage Area 20655b1bA (S8). The sequence described in the present paragraph is repeated periodically.

This paragraph illustrates Permitted Caller's Personal Data Displaying Software 20655c7A stored in Callee's Information Displaying Software Storage Area 20655cA of Callee's Device, which displays the permitted caller's personal data on LCD 201 (FIG. 1) of Callee's Device. In the present embodiment, CPU 211 (FIG. 1) of Callee's Device retrieves the permitted caller's personal data from Caller's Personal Data Storage Area 20655b3A (S1). CPU 211 then displays the permitted caller's personal data on LCD 201 (FIG. 1) (S2). The sequence described in the present paragraph is repeated periodically.

This paragraph illustrates Map Displaying Software 20655c8A stored in Callee's Information Displaying Software Storage Area 20655cA of Callee's Device, which displays the map representing the surrounding area of the location indicated by the caller's calculated GPS data. In the present embodiment, CPU 211 (FIG. 1) of Callee's Device retrieves the caller's calculated GPS data from Caller's Calculated GPS Data Storage Area 20655b5A (S1). CPU 211 then retrieves the map data from Caller's Map Data Storage Area 20655b7A (S2), and arranges on the map data the caller's current location icon in accordance with the caller's calculated GPS data (S3). Here, the caller's current location icon is an icon which represents the location of Caller's Device in the map data. The map with the caller's current location icon is displayed on LCD 201 (FIG. 1) (S4). The sequence described in the present paragraph is repeated periodically.

This paragraph illustrates Caller's Audio Data Outputting Software 20655c9A stored in Caller's Information Displaying Software Storage Area 20655c of Caller's Device, which outputs the caller's audio data from Speaker 216 (FIG. 1) of Callee's Device. In the present embodiment, CPU 211 (FIG. 1) of Callee's Device retrieves the caller's audio data from Caller's Audio Data Storage Area 20655b1aA (S1). CPU 211 then outputs the caller's audio data from Speaker 216 (FIG. 1) (S2). The sequence described in the present paragraph is repeated periodically.

This paragraph illustrates Caller's Visual Data Displaying Software 20655c10A stored in Callee's Information Displaying Software Storage Area 20655cA of Callee's Device, which displays the caller's visual data on LCD 201 (FIG. 1) of Callee's Device. In the present embodiment, CPU 211 (FIG.

1) of Callee's Device retrieves the caller's visual data from Caller's Visual Data Storage Area 20655*b*1*b*A (S1). CPU 211 then displays the caller's visual data on LCD 201 (FIG. 1) (S2). The sequence described in the present paragraph is repeated periodically.

The following paragraphs primarily illustrate the sequence to output the Callee's Information (which is defined hereinafter) from Caller's Device.

This paragraph illustrates Permitted Callee's Personal Data Selecting Software 20655*c*1A stored in Callee's Information Displaying Software Storage Area 20655*c*A of Callee's Device, which selects the permitted callee's personal data to be displayed on LCD 201 (FIG. 1) of Caller's Device. In the present embodiment, CPU 211 (FIG. 1) of Callee's Device retrieves all of the callee's personal data from Callee's Personal Data Storage Area 20655*b*4A (S1). CPU 211 then displays a list of callee's personal data on LCD 201 (FIG. 1) (S2). The callee selects, by utilizing Input Device 210 (FIG. 1) or via voice recognition system, the callee's personal data permitted to be displayed on Caller's Device (S3). The permitted callee's personal data flag of the data selected in S3 is registered as '1' (S4).

This paragraph illustrates Dialing Software H55*c*2 stored in Caller/Callee Software Storage Area H55*c* of Host H, Dialing Software 20655*c*2A stored in Callee's Information Displaying Software Storage Area 20655*c*A of Callee's Device, and Dialing Software 20655*c*2 stored in Caller's Information Displaying Software Storage Area 20655*c* of Caller's Device, which enables to connect between Callee's Device and Caller's Device via Host H in a wireless fashion. In the present embodiment, a connection is established between Callee's Device and Host H (S1). Next, a connection is established between Host H and Caller's Device (S2). As a result, Callee's Device and Caller's Device are able to exchange audiovisual data, text data, and various types of data with each other. The sequence described in the present paragraph is not necessarily implemented if the connection between Caller's Device and Callee's Device is established as described hereinbefore. The sequence described in the present paragraph may be implemented if the connection is accidentally terminated by Callee's Device and the connection process is initiated by Callee's Device.

This paragraph illustrates Callee's Device Pin-pointing Software H55*c*3*a* stored in Caller/Callee Software Storage Area H55*c* of Host H and Callee's Device Pin-pointing Software 20655*c*3A stored in Callee's Information Displaying Software Storage Area 20655*c*A of Callee's Device, which identifies the current geographic location of Callee's Device. In the present embodiment, CPU 211 (FIG. 1) of Callee's Device collects the GPS raw data from the near base stations (S1). CPU 211 sends the raw GPS data to Host H (S2). Upon receiving the raw GPS data (S3), Host H produces the callee's calculated GPS data by referring to the raw GPS data (S4). Host H stores the callee's calculated GPS data in Callee's Calculated GPS Data Storage Area H55*b*6 (S5). Host H then retrieves the callee's calculated GPS data from Callee's Calculated GPS Data Storage Area H55*b*6 (S6), and sends the data to Callee's Device (S7). Upon receiving the callee's calculated GPS data from Host H (S8), CPU 211 stores the data in Callee's Calculated GPS Data Storage Area 20655*b*6A (S9). Here, the GPS raw data are the primitive data utilized to produce the callee's calculated GPS data, and the callee's calculated GPS data is the data representing the location of Callee's Device in (x, y, z) format. The sequence described in the present paragraph is repeated periodically.

This paragraph illustrates another embodiment of the sequence described hereinbefore in which the entire process

is performed solely by Callee's Device Pin-pointing Software 20655*c*3A stored in Callee's Information Displaying Software Storage Area 20655*c*A of Callee's Device. In the present embodiment, CPU 211 (FIG. 1) of Callee's Device collects the raw GPS data from the near base stations (S1). CPU 211 then produces the callee's calculated GPS data by referring to the raw GPS data (S2), and stores the callee's calculated GPS data in Callee's Calculated GPS Data Storage Area 20655*b*6A (S3). The sequence described in the present paragraph is repeated periodically.

This paragraph illustrates Map Data Sending/Receiving Software H55*c*4 stored in Caller/Callee Software Storage Area H55*c* of Host H and Map Data Sending/Receiving Software 20655*c*4A stored in Callee's Information Displaying Software Storage Area 20655*c*A of Callee's Device, which sends and receives the map data. In the present embodiment, CPU 211 (FIG. 1) of Callee's Device retrieves the callee's calculated GPS data from Callee's Calculated GPS Data Storage Area 20655*b*6A (S1), and sends the data to Host H (S2). Upon receiving the calculated GPS data from Callee's Device (S3), Host H identifies the map data in Map Data Storage Area H55*b*3 (S4). Here, the map data represents the surrounding area of the location indicated by the callee's calculated GPS data. Host H retrieves the map data from Map Data Storage Area H55*b*3 (S5), and sends the data to Callee's Device (S6). Upon receiving the map data from Host H (S7), Callee's Device stores the data in Callee's Map Data Storage Area 20655*b*8A (S8). The sequence described in the present paragraph is repeated periodically.

This paragraph illustrates Callee's Audiovisual Data Collecting Software 20655*c*5A stored in Callee's Information Displaying Software Storage Area 20655*c*A of Callee's Device, which collects the audiovisual data of the callee to be sent to Caller's Device via Antenna 218 (FIG. 1) thereof. CPU 211 (FIG. 1) of Callee's Device retrieves the callee's audiovisual data from CCD Unit 214 and Microphone 215 (S1). CPU 211 then stores the callee's audio data in Callee's Audio Data Storage Area 20655*b*2*a*A (S2), and the callee's visual data in Callee's Visual Data Storage Area 20655*b*2*b*A (S3). The sequence described in the present paragraph is repeated periodically.

This paragraph illustrates Callee's Information Sending/Receiving Software H55*c*6*a* stored in Caller/Callee Software Storage Area H55*c* of Host H and Callee's Information Sending/Receiving Software 20655*c*6A stored in Callee's Information Displaying Software Storage Area 20655*c*A of Callee's Device, which sends and receives the Callee's Information (which is defined hereinafter) between Callee's Device and Host H. In the present embodiment, CPU 211 (FIG. 1) of Callee's Device retrieves the permitted callee's personal data from Callee's Personal Data Storage Area 20655*b*4A (S1). CPU 211 retrieves the callee's calculated GPS data from Callee's Calculated GPS Data Storage Area 20655*b*6A (S2). CPU 211 retrieves the map data from Callee's Map Data Storage Area 20655*b*8A (S3). CPU 211 retrieves the callee's audio data from Callee's Audio Data Storage Area 20655*b*2*a*A (S4). CPU 211 retrieves the callee's visual data from Callee's Visual Data Storage Area 20655*b*2*b*A (S5). CPU 211 then sends the data retrieved in S1 through S5 (collectively defined as the 'Callee's Information' hereinafter) to Host H (S6). Upon receiving the Callee's Information from Callee's Device (S7), Host H stores the Callee's Information in Callee's Information Storage Area H55*b*2 (S8). The sequence described in the present paragraph is repeated periodically.

This paragraph illustrates Callee's Information Sending/Receiving Software H55*c*6*a* stored in Caller/Callee Software

Storage Area H55c of Host H and Callee's Information Send- ing/Receiving Software 20655c6a stored in Caller's Informa- tion Displaying Software Storage Area 20655c of Caller's Device, which sends and receives the Callee's Information between Host H and Caller's Device. In the present embodi- ment, Host H retrieves the Callee's Information from Callee's Information Storage Area H55b2 (S1), and sends the Callee's Information to Caller's Device (S2). CPU 211 (FIG. 1) of Caller's Device receives the Callee's Information from Host H (S3). CPU 211 stores the permitted callee's personal data in Callee's Personal Data Storage Area 20655b4 (S4). CPU 211 stores the callee's calculated GPS data in Callee's Calculated GPS Data Storage Area 20655b6 (S5). CPU 211 stores the map data in Callee's Map Data Storage Area 20655b8 (S6). CPU 211 stores the callee's audio data in Callee's Audio Data Storage Area 20655b2a (S7). CPU 211 stores the callee's visual data in Callee's Visual Data Storage Area 20655b2b (S8). The sequence described in the present paragraph is repeated periodically.

This paragraph illustrates Permitted Callee's Personal Data Displaying Software 20655c7 stored in Caller's Infor- mation Displaying Software Storage Area 20655c of Caller's Device, which displays the permitted callee's personal data on LCD 201 (FIG. 1) of Caller's Device. In the present embodiment, CPU 211 (FIG. 1) of Caller's Device retrieves the permitted callee's personal data from Callee's Personal Data Storage Area 20655b4 (S1). CPU 211 then displays the permitted callee's personal data on LCD 201 (FIG. 1) (S2). The sequence described in the present paragraph is repeated periodically.

This paragraph illustrates Map Displaying Software 20655c8 stored in Caller's Information Displaying Software Storage Area 20655c of Caller's Device, which displays the map representing the surrounding area of the location indi- cated by the callee's calculated GPS data. In the present embodiment, CPU 211 (FIG. 1) of Caller's Device retrieves the callee's calculated GPS data from Callee's Calculated GPS Data Storage Area 20655b6 (S1). CPU 211 then retrieves the map data from Callee's Map Data Storage Area 20655b8 (S2), and arranges on the map data the callee's current location icon in accordance with the callee's calcu- lated GPS data (S3). Here, the callee's current location icon is an icon which represents the location of Callee's Device in the map data. The map with the callee's current location icon is displayed on LCD 201 (FIG. 1) (S4). The sequence described in the present paragraph is repeated periodically.

This paragraph illustrates Callee's Audio Data Outputting Software 20655c9 stored in Caller's Information Displaying Software Storage Area 20655c of Caller's Device, which outputs the callee's audio data from Speaker 216 (FIG. 1) of Caller's Device. In the present embodiment, CPU 211 (FIG. 1) of Caller's Device retrieves the callee's audio data from Callee's Audio Data Storage Area 20655b2a (S1). CPU 211 then outputs the caller's audio data from Speaker 216 (FIG. 1) (S2). The sequence described in the present paragraph is repeated periodically.

This paragraph illustrates Callee's Visual Data Displaying Software 20655c10 stored in Caller's Information Displaying Software Storage Area 20655c of Caller's Device, which displays the callee's visual data on LCD 201 (FIG. 1) of Caller's Device. In the present embodiment, CPU 211 (FIG. 1) of Caller's Device retrieves the callee's visual data from Callee's Visual Data Storage Area 20655b2b (S1). CPU 211 then displays the callee's visual data on LCD 201 (FIG. 1) (S2). The sequence described in the present paragraph is repeated periodically.

<<Shortcut Icon Displaying Function>>

The following paragraphs illustrate the shortcut icon dis- playing function which displays one or more of shortcut icons on LCD 201 (FIG. 1) of Communication Device 200. The user of Communication Device 200 can execute the software programs in a convenient manner by selecting (e.g., clicking or double clicking) the shortcut icons. The foregoing software programs may be any software programs described in this specification.

This paragraph illustrates the shortcut icons displayed on LCD 201 (FIG. 1) of Communication Device 200 by imple- menting the present function. In this embodiment, three shortcut icons are displayed on LCD 201 (FIG. 1), i.e., Short- cut Icon#1, Shortcut Icon#2, and Shortcut Icon#3. The user of Communication Device 200 can execute the software pro- grams by selecting (e.g., clicking or double clicking) one of the shortcut icons. For example, assume that Shortcut Icon#1 represents MS Word 97. By selecting (e.g., clicking or double clicking) Shortcut Icon#1, the user can execute MS Word 97 installed in Communication Device 200 or Host H. Three shortcut icons are illustrated in the present drawing, however, only for purposes of simplifying the explanation of the present function. Therefore, as many shortcut icons equiva- lent to the number of the software programs described in this specification may be displayed on LCD 201, and the corre- sponding software programs may be executed by implement- ing the present function.

This paragraph illustrates the storage area included in RAM 206 (FIG. 1). In this embodiment, RAM 206 includes Shortcut Icon Displaying Information Storage Area 20659a of which the data and the software programs stored therein are described hereinafter.

This paragraph illustrates the storage areas included in Shortcut Icon Displaying Information Storage Area 20659a. In this embodiment, Shortcut Icon Displaying Information Storage Area 20659a includes Shortcut Icon Displaying Data Storage Area 20659b and Shortcut Icon Displaying Software Storage Area 20659c. Shortcut Icon Displaying Data Storage Area 20659b stores the data necessary to implement the present function, such as the ones described hereinafter. Shortcut Icon Displaying Software Storage Area 20659c stores the software programs necessary to implement the present function, such as the ones described hereinafter.

The data and/or the software programs stored in Shortcut Icon Displaying Software Storage Area 20659c may be downloaded from Host H.

This paragraph illustrates the storage areas included in Shortcut Icon Displaying Data Storage Area 20659b. In this embodiment, Shortcut Icon Displaying Data Storage Area 20659b includes Shortcut Icon Image Data Storage Area 20659b1, Shortcut Icon Location Data Storage Area 20659b2, Shortcut Icon Link Data Storage Area 20659b3, and Selected Shortcut Icon Data Storage Area 20659b4. Shortcut Icon Image Data Storage Area 20659b1 stores the data described hereinafter. Shortcut Icon Location Data Stor- age Area 20659b2 stores the data described hereinafter. Shortcut Icon Link Data Storage Area 20659b3 stores the data described hereinafter. Selected Shortcut Icon Data Storage Area 20659b4 stores the data described hereinafter.

This paragraph illustrates the data stored in Shortcut Icon Image Data Storage Area 20659b1. In this embodiment, Shortcut Icon Image Data Storage Area 20659b1 comprises two columns, i.e., 'Shortcut Icon ID' and 'Shortcut Icon Image Data'. Column 'Shortcut Icon ID' stores the shortcut icon IDs, and each shortcut icon ID is the identification of the corresponding shortcut icon image data stored in column 'Shortcut Icon Image Data'. Column 'Shortcut Icon Image

Data' stores the shortcut icon image data, and each shortcut icon image data is the image data of the shortcut icon displayed on LCD **201** (FIG. **1**) as described hereinbefore. In this embodiment, Shortcut Icon Image Data Storage Area **20659***b*1 stores the following data: the shortcut icon ID 'Shortcut Icon#1' and the corresponding shortcut icon image data 'Shortcut Icon Image Data#1'; the shortcut icon ID 'Shortcut Icon#2' and the corresponding shortcut icon image data 'Shortcut Icon Image Data#2'; the shortcut icon ID 'Shortcut Icon#3' and the corresponding shortcut icon image data 'Shortcut Icon Image Data#3'; and the shortcut icon ID 'Shortcut Icon#4' and the corresponding shortcut icon image data 'Shortcut Icon Image Data#4'.

This paragraph illustrates the data stored in Shortcut Icon Location Data Storage Area **20659***b*2. In this embodiment, Shortcut Icon Location Data Storage Area **20659***b*2 comprises two columns, i.e., 'Shortcut Icon ID' and 'Shortcut Icon Location Data'. Column 'Shortcut Icon ID' stores the shortcut icon IDs described hereinbefore. Column 'Shortcut Icon Location Data' stores the shortcut icon location data, and each shortcut icon location data indicates the location displayed on LCD **201** (FIG. **1**) in (x,y) format of the shortcut icon image data of the corresponding shortcut icon ID. In this embodiment, Shortcut Icon Location Data Storage Area **20659***b*2 stores the following data: the shortcut icon ID 'Shortcut Icon#1' and the corresponding shortcut icon location data 'Shortcut Icon Location Data#1'; the shortcut icon ID 'Shortcut Icon#2' and the corresponding shortcut icon location data 'Shortcut Icon Location Data#2'; the shortcut icon ID 'Shortcut Icon#3' and the corresponding shortcut icon location data 'Shortcut Icon Location Data#3'; and the shortcut icon ID 'Shortcut Icon#4' and the corresponding shortcut icon location data 'Shortcut Icon Location Data#4'.

This paragraph illustrates the data stored in Shortcut Icon Link Data Storage Area **20659***b*3. In this embodiment, Shortcut Icon Link Data Storage Area **20659***b*3 comprises two columns, i.e., 'Shortcut Icon ID' and 'Shortcut Icon Link Data'. Column 'Shortcut Icon ID' stores the shortcut icon IDs described hereinbefore. Column 'Shortcut Icon Link Data' stores the shortcut icon link data, and each shortcut icon link data represents the location in Communication Device **200** of the software program stored therein represented by the shortcut icon of the corresponding shortcut icon ID. In this embodiment, Shortcut Icon Link Data Storage Area **20659***b*3 stores the following data: the shortcut icon ID 'Shortcut Icon#1' and the corresponding shortcut icon link data 'Shortcut Icon Link Data#1'; the shortcut icon ID 'Shortcut Icon#2' and the corresponding shortcut icon link data 'Shortcut Icon Link Data#2'; the shortcut icon ID 'Shortcut Icon#3' and the corresponding shortcut icon link data 'Shortcut Icon Link Data#3'; and the shortcut icon ID 'Shortcut Icon#4' and the corresponding shortcut icon link data 'Shortcut Icon Link Data#4'. The foregoing software program may be any software program described in this specification.

This paragraph illustrates the data stored in Selected Shortcut Icon Data Storage Area **20659***b*4. In this embodiment, Selected Shortcut Icon Data Storage Area **20659***b*4 stores one or more of shortcut icon IDs. Only the shortcut icon image data of the shortcut icon IDs stored in Selected Shortcut Icon Data Storage Area **20659***b*4 are displayed on LCD **201** (FIG. **1**). In this embodiment, Selected Shortcut Icon Data Storage Area **20659***b*4 stores the following data: the shortcut icon IDs 'Shortcut Icon#1', 'Shortcut Icon#2', and 'Shortcut Icon#3', which means that only the shortcut icon image data corresponding to 'Shortcut Icon#1', 'Shortcut Icon#2', and 'Shortcut Icon#3' are displayed on LCD **201**.

This paragraph illustrates the software programs stored in Shortcut Icon Displaying Software Storage Area **20659***c*. In this embodiment, Shortcut Icon Displaying Software Storage Area **20659***c* stores Shortcut Icon Displaying Software **20659***c*1, Software Executing Software **20659***c*2, Shortcut Icon Location Data Changing Software **20659***c*3, and Software Executing Software **20659***c*4. Shortcut Icon Displaying Software **20659***c*1 is the software program described hereinafter. Software Executing Software **20659***c*2 is the software program described hereinafter. Shortcut Icon Location Data Changing Software **20659***c*3 is the software program described hereinafter. Software Executing Software **20659***c*4 is the software program described hereinafter.

This paragraph illustrates Shortcut Icon Displaying Software **20659***c*1 stored in Shortcut Icon Displaying Software Storage Area **20659***c* of Communication Device **200**, which displays the shortcut icon image data displayed on LCD **201** (FIG. **1**) of Communication Device **200**. In this embodiment, CPU **211** (FIG. **1**) refers to the shortcut icon IDs stored in Selected Shortcut Icon Data Storage Area **20659***b*4 to identify the shortcut icon image data to be displayed on LCD **201** (FIG. **1**) (S1). CPU **211** then retrieves the shortcut icon image data of the corresponding shortcut icon IDs identified in S1 from Shortcut Icon Image Data Storage Area **20659***b*1 (S2). CPU **211** further retrieves the shortcut icon location data of the corresponding shortcut icon IDs identified in S1 from Shortcut Icon Location Data Storage Area **20659***b*2 (S3). CPU **211** displays on LCD **201** (FIG. **1**) the shortcut icon image data thereafter (S4).

This paragraph illustrates Software Executing Software **20659***c*2 stored in Shortcut Icon Displaying Software Storage Area **20659***c* of Communication Device **200**, which executes the corresponding software program upon selecting the shortcut icon image data displayed on LCD **201** (FIG. **1**) of Communication Device **200**. In this embodiment, the user of Communication Device **200** selects the shortcut icon image data displayed on LCD **201** by utilizing Input Device **210** (FIG. **1**) or via voice recognition system (S1). CPU **211** (FIG. **1**) then identifies the shortcut icon ID of the shortcut icon image data selected in S1 (S2). CPU **211** identifies the shortcut icon link data stored in Shortcut Icon Link Data Storage Area **20659***b*3 from the shortcut icon ID identified in S2 (S3), and executes the corresponding software program (S4).

This paragraph illustrates Shortcut Icon Location Data Changing Software **20659***c*3 stored in Shortcut Icon Displaying Software Storage Area **20659***c* of Communication Device **200**, which enables the user of Communication Device **200** to change the location of the shortcut icon image data displayed on LCD **201** (FIG. **1**). In this embodiment, the user of Communication Device **200** selects the shortcut icon image data displayed on LCD **201** (S1). CPU **211** (FIG. **1**) then identifies the shortcut icon ID of the shortcut icon image data selected in S1 (S2). The user moves the shortcut icon selected in S1 by utilizing Input Device **210** (FIG. **1**) or via voice recognition system (S3). CPU **211** then identifies the new location thereof (S4), and updates the shortcut icon location data stored in Shortcut Icon Location Data Storage Area **20659***b*2 (S5).

<<Shortcut Icon Displaying Function—Executing Software In Host H>>

The following paragraphs illustrate the implementation of the present invention wherein the user of Communication Device **200** executes the software programs stored in Host H by selecting the shortcut icons displayed on LCD **201** (FIG. **1**).

This paragraph illustrates the storage areas included in Host H. In this embodiment, Host H includes Shortcut Icon

Displaying Information Storage Area H59a of which the data and the software programs stored therein are described hereinafter.

This paragraph illustrates the storage areas included in Shortcut Icon Displaying Information Storage Area H59a. In this embodiment, Shortcut Icon Displaying Information Storage Area H59a includes Shortcut Icon Displaying Data Storage Area H59b and Shortcut Icon Displaying Software Storage Area H59c. Shortcut Icon Displaying Data Storage Area H59b stores the data necessary to implement the present function on the side of Host H, such as the ones described hereinafter. Shortcut Icon Displaying Software Storage Area H59c stores the software programs necessary to implement the present function on the side of Host H, such as the ones described hereinafter.

This paragraph illustrates the storage area included in Shortcut Icon Displaying Data Storage Area H59b. In this embodiment, Shortcut Icon Displaying Data Storage Area H59b includes Software Programs Storage Area H59b1. Software Programs Storage Area H59b1 stores the data described hereinafter.

This paragraph illustrates the data stored in Software Programs Storage Area H59b1. In this embodiment, Software Programs Storage Area H59b1 comprises two columns, i.e., 'Software ID' and 'Software Program'. Column 'Software ID' stores the software IDs, and each software ID is an identification of the software program stored in column 'Software Program'. Column 'Software Program' stores the software programs. In this embodiment, Software Programs Storage Area H59b1 stores the following data: software ID 'Software#3' and the corresponding software program 'Software Program#3'; software ID 'Software#4' and the corresponding software program 'Software Program#4'; software ID 'Software#5' and the corresponding software program 'Software Program#5'; and software ID 'Software#6' and the corresponding software program 'Software Program#6'. Here, the software programs may be any software programs which are stored in Host H described in this specification. As another embodiment, the software programs may be any software programs stored in RAM 206 (FIG. 1) of Communication Device 200 described in this specification.

This paragraph illustrates the software program stored in Shortcut Icon Displaying Software Storage Area H59c. In this embodiment, Shortcut Icon Displaying Software Storage Area H59c stores Software Executing Software H59c4. Software Executing Software H59c4 is the software program described hereinafter.

This paragraph illustrates Software Executing Software H59c4 stored in Shortcut Icon Displaying Software Storage Area H59c of Host H and Software Executing Software 20659c4 stored in Shortcut Icon Displaying Software Storage Area 20659c of Communication Device 200, which execute the corresponding software program upon selecting the shortcut icon image data displayed on LCD 201 (FIG. 1) of Communication Device 200. In this embodiment, the user of Communication Device 200 selects the shortcut icon image data displayed on LCD 201 by utilizing Input Device 210 (FIG. 1) or via voice recognition system (S1). CPU 211 (FIG. 1) then identifies the shortcut icon ID of the shortcut icon image data selected in S1 (S2). CPU 211 identifies the shortcut icon link data stored in Shortcut Icon Link Data Storage Area 20659b3 from the shortcut icon ID identified in S2 (S3), which is sent to Host H (S4). Upon receiving the shortcut icon link data from Communication Device 200 (S5), Host H executes the corresponding software program (S6) and produces the relevant display data, which are send to Communication Device

200 (S7). Upon receiving the relevant display data from Host H, Communication Device 200 displays the data on LCD 201 (S8).

<<Camcorder Auto Time Adjusting Function>>

The following paragraphs illustrate the camcorder auto time adjusting function, wherein the current time is automatically adjusted, when audiovisual data is recorded, the automatically adjusted current time is recorded simultaneously, and when the recorded audiovisual data is replayed, the recorded automatically adjusted current time is replayed simultaneously. Further, the audiovisual data which is currently being recorded is output from Communication Device 200 and the current time which is automatically adjusted is displayed on LCD 201 (FIG. 1) simultaneously.

This paragraph illustrates the storage area included in Host H. In this embodiment, Host H includes Camcorder Auto Time Adjusting Information Storage Area H606a of which the data and the software program(s) stored therein are described hereinafter.

This paragraph illustrates the storage area(s) included in Camcorder Auto Time Adjusting Information Storage Area H606a. In this embodiment, Camcorder Auto Time Adjusting Information Storage Area H606a includes Camcorder Auto Time Adjusting Data Storage Area H606b and Camcorder Auto Time Adjusting Software Storage Area H606c. Camcorder Auto Time Adjusting Data Storage Area H606b stores the data necessary to implement the present function on the side of Host H, such as the one(s) described hereinafter. Camcorder Auto Time Adjusting Software Storage Area H606c stores the software program(s) necessary to implement the present function on the side of Host H, such as the one(s) described hereinafter.

This paragraph illustrates the storage area(s) included in Camcorder Auto Time Adjusting Data Storage Area H606b. In this embodiment, Camcorder Auto Time Adjusting Data Storage Area H606b includes Current Audiovisual Data Storage Area H606b1, Recorded Audiovisual Data Storage Area H606b2, Accurate Current Time Data Storage Area H606b3, Auto Adjusted Current Time Data Storage Area H606b4, Recorded Time Data Storage Area H606b5, and Work Area H606b6. Current Audiovisual Data Storage Area H606b1 stores the current audiovisual data which is the audiovisual data retrieved via Microphone 215 (FIG. 1) and CCD Unit 214 (FIG. 1). Recorded Audiovisual Data Storage Area H606b2 stores the recorded audiovisual data which is the current audiovisual data stored and which is replayable by Communication Device 200. Accurate Current Time Data Storage Area H606b3 stores the accurate current time data which is the data retrieved from the Internet and which indicates accurate current time. Auto Adjusted Current Time Data Storage Area H606b4 stores the auto adjusted current time data which indicates the current time. The auto adjusted current time data is automatically adjusted periodically. Recorded Time Data Storage Area H606b5 stores the recorded time data which is the auto adjusted current time data stored when the recorded audiovisual data is stored. When the recorded audiovisual data is replayed, the recorded time data is replayed in synchronization therewith. Work Area H606b6 is utilized as a work area to perform calculation and temporarily store data.

This paragraph illustrates the software program(s) stored in Camcorder Auto Time Adjusting Software Storage Area H606c. In this embodiment, Camcorder Auto Time Adjusting Software Storage Area H606c stores Accurate Current Time Data Retrieving Software H606c1, Auto Adjusted Current Time Data Auto Adjusting Software H606c2, Auto Adjusted Current Time Data Displaying Software H606c3, Recorded

Audiovisual Data Producing Software H606c4, and Recorded Audiovisual Data Replaying Software H606c5. Accurate Current Time Data Retrieving Software H606c1 is the software program described hereinafter. Auto Adjusted Current Time Data Auto Adjusting Software H606c2 is the software program described hereinafter. Auto Adjusted Current Time Data Displaying Software H606c3 is the software program described hereinafter. Recorded Audiovisual Data Producing Software H606c4 is the software program described hereinafter. Recorded Audiovisual Data Replaying Software H606c5 is the software program described hereinafter.

This paragraph illustrates the storage area included in RAM 206 (FIG. 1) of Communication Device 200. In this embodiment, RAM 206 includes Camcorder Auto Time Adjusting Information Storage Area 206606a of which the data and the software program(s) stored therein are described hereinafter.

The data and/or the software program(s) necessary to implement the present function may be downloaded from Host H to Communication Device 200.

This paragraph illustrates the storage area(s) included in Camcorder Auto Time Adjusting Information Storage Area 206606a. In this embodiment, Camcorder Auto Time Adjusting Information Storage Area 206606a includes Camcorder Auto Time Adjusting Data Storage Area 206606b and Camcorder Auto Time Adjusting Software Storage Area 206606c. Camcorder Auto Time Adjusting Data Storage Area 206606b stores the data necessary to implement the present function on the side of Communication Device 200, such as the one(s) described hereinafter. Camcorder Auto Time Adjusting Software Storage Area 206606c stores the software program(s) necessary to implement the present function on the side of Communication Device 200, such as the one(s) described hereinafter.

This paragraph illustrates the storage area(s) included in Camcorder Auto Time Adjusting Data Storage Area 206606b. In this embodiment, Camcorder Auto Time Adjusting Data Storage Area 206606b includes Current Audiovisual Data Storage Area 206606b1, Recorded Audiovisual Data Storage Area 206606b2, Accurate Current Time Data Storage Area 206606b3, Auto Adjusted Current Time Data Storage Area 206606b4, Recorded Time Data Storage Area 206606b5, and Work Area 206606b6. Current Audiovisual Data Storage Area 206606b1 stores the current audiovisual data which is the audiovisual data retrieved via Microphone 215 (FIG. 1) and CCD Unit 214 (FIG. 1). Recorded Audiovisual Data Storage Area 206606b2 stores the recorded audiovisual data which is the current audiovisual data stored and which is replayable by Communication Device 200. Accurate Current Time Data Storage Area 206606b3 stores the accurate current time data which is the data retrieved from the Internet and which indicates accurate current time. Auto Adjusted Current Time Data Storage Area 206606b4 stores the auto adjusted current time data which indicates the current time. The auto adjusted current time data is automatically adjusted periodically. Recorded Time Data Storage Area 206606b5 stores the recorded time data which is the auto adjusted current time data stored when the recorded audiovisual data is stored. When the recorded audiovisual data is replayed, the recorded time data is replayed in synchronization therewith. Work Area 206606b6 is utilized as a work area to perform calculation and temporarily store data.

This paragraph illustrates the software program(s) stored in Camcorder Auto Time Adjusting Software Storage Area 206606c. In this embodiment, Camcorder Auto Time Adjusting Software Storage Area 206606c stores Accurate Current

Time Data Retrieving Software 206606c1, Auto Adjusted Current Time Data Auto Adjusting Software 206606c2, Auto Adjusted Current Time Data Displaying Software 206606c3, Recorded Audiovisual Data Producing Software 206606c4, and Recorded Audiovisual Data Replaying Software 206606c5. Accurate Current Time Data Retrieving Software 206606c1 is the software program described hereinafter. Auto Adjusted Current Time Data Auto Adjusting Software 206606c2 is the software program described hereinafter. Auto Adjusted Current Time Data Displaying Software 206606c3 is the software program described hereinafter. Recorded Audiovisual Data Producing Software 206606c4 is the software program described hereinafter. Recorded Audiovisual Data Replaying Software 206606c5 is the software program described hereinafter.

This paragraph illustrate(s) Accurate Current Time Data Retrieving Software H606c1 of Host H, which retrieve(s) the accurate current time data from the Internet periodically. In this embodiment, Host H retrieves the accurate current time data from the Internet (S1). Host H stores the accurate current time data retrieved in the previous step in Accurate Current Time Data Storage Area H606b3 (S2). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Auto Adjusted Current Time Data Auto Adjusting Software H606c2 of Host H, which automatically adjust(s) the auto adjusted current time data periodically. In this embodiment, Host H retrieves the accurate current time data from Accurate Current Time Data Storage Area H606b3 (S1). Host H retrieves the auto adjusted current time data from Auto Adjusted Current Time Data Storage Area H606b4 (S2). Host H adjusts the auto adjusted current time data by referring to the accurate current time data retrieved in S1 (S3). Host H stores the auto adjusted current time data adjusted in the previous step in Auto Adjusted Current Time Data Storage Area H606b4 (S4). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Auto Adjusted Current Time Data Displaying Software H606c3 of Host H and Auto Adjusted Current Time Data Displaying Software 206606c3 of Communication Device 200, which display(s) the auto adjusted current time data. The auto adjusted current time data may be displayed at the lower right corner of LCD 201 (FIG. 1). In this embodiment, Host H retrieves the auto adjusted current time data from Auto Adjusted Current Time Data Storage Area H606b4 and sends the data to Communication Device 200 (S1). CPU 211 (FIG. 1) receives the auto adjusted current time data from Host H in a wireless fashion and displays the data on LCD 201 (FIG. 1) (S2). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Recorded Audiovisual Data Producing Software H606c4 of Host H and Recorded Audiovisual Data Producing Software 206606c4 of Communication Device 200, which produce(s) the recorded audiovisual data and the recorded time data. In this embodiment, the user of Communication Device 200 inputs, by utilizing Input Device 210 (FIG. 1) or via voice recognition system, the recorded audiovisual data producing command (S1). Here, the recorded audiovisual data producing command is the command to produce the recorded audiovisual data and the recorded time data. CPU 211 (FIG. 1) retrieves audiovisual data via Microphone 215 (FIG. 1) and CCD Unit 214 (FIG. 1) (S2). CPU 211 (FIG. 1) produces the current audiovisual data by utilizing the audiovisual data retrieved in the previous step and sends the data to Host H in a wireless fashion (S3). Host H receives the current audiovisual data from Communication Device 200 and stores the data in Current Audiovisual Data Storage Area H606b1 (S4). Host H retrieves the current

audiovisual data from Current Audiovisual Data Storage Area H606*b*1 (S5). Host H stores the current audiovisual data retrieved in the previous step as the recorded audiovisual data in Recorded Audiovisual Data Storage Area H606*b*2 (S6). Host H retrieves the recorded audiovisual data from Recorded Audiovisual Data Storage Area H606*b*2 and sends the data to Communication Device 200 (S7). CPU 211 (FIG. 1) receives the recorded audiovisual data from Host H in a wireless fashion (S8). CPU 211 (FIG. 1) displays the visual portion of the recorded audiovisual data received in the previous step on LCD 201 (FIG. 1) (S9). Host H retrieves the auto adjusted current time data from Auto Adjusted Current Time Data Storage Area H606*b*4 (S10). Host H stores the auto adjusted current time data retrieved in the previous step as the recorded time data in Recorded Time Data Storage Area H606*b*5 (S11). Host H retrieves the recorded time data from Recorded Time Data Storage Area H606*b*5 and sends the data to Communication Device 200 (S12). CPU 211 (FIG. 1) receives the recorded time data from Host H in a wireless fashion and displays the data on LCD 201 (FIG. 1) (S13). CPU 211 (FIG. 1) repeats S2 through S13 (S14).

This paragraph illustrate(s) Recorded Audiovisual Data Replaying Software H606*c*5 of Host H and Recorded Audiovisual Data Replaying Software 206606*c*5 of Communication Device 200, which replay(s) the recorded audiovisual data and the recorded time data. In this embodiment, the user of Communication Device 200 inputs, by utilizing Input Device 210 (FIG. 1) or via voice recognition system, the recorded audiovisual data replaying command (S1). Here, the recorded audiovisual data replaying command is the command to replay the recorded audiovisual data and the recorded time data. CPU 211 (FIG. 1) sends the recorded audiovisual data replaying command input in the previous step to Host H in a wireless fashion (S2). Host H receives the recorded audiovisual data replaying command from Communication Device 200 (S3). Host H retrieves the recorded audiovisual data from Recorded Audiovisual Data Storage Area H606*b*2 and sends the data to Communication Device 200 (S4). CPU 211 (FIG. 1) receives the recorded audiovisual data from Host H in a wireless fashion and outputs the data from Speaker 216 (FIG. 1) and LCD 201 (FIG. 1) (S5). Host H retrieves the recorded time data from Recorded Time Data Storage Area H606*b*5 and sends the data to Communication Device 200 (S6). CPU 211 (FIG. 1) receives the recorded time data from Host H in a wireless fashion and displays the data on LCD 201 (FIG. 1) (S7). Thus, the recorded audiovisual data is replayed, and the recorded time data is replayed in synchronization therewith. CPU 211 (FIG. 1) repeats S4 through S7 (S8).

The following paragraphs illustrate another embodiment wherein Communication Device 200 plays the major role in implementing the present function.

This paragraph illustrate(s) Accurate Current Time Data Retrieving Software 206606*c*1 of Communication Device 200, which retrieve(s) the accurate current time data from the Internet periodically. In this embodiment, CPU 211 (FIG. 1) retrieves the accurate current time data from the Internet (S1). CPU 211 (FIG. 1) stores the accurate current time data retrieved in the previous step in Accurate Current Time Data Storage Area 206606*b*3 (S2). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Auto Adjusted Current Time Data Auto Adjusting Software 206606*c*2 of Communication Device 200, which automatically adjust(s) the auto adjusted current time data periodically. In this embodiment, CPU 211 (FIG. 1) retrieves the accurate current time data from Accurate Current Time Data Storage Area 206606*b*3 (S1). CPU 211 (FIG. 1) retrieves the auto adjusted current time data from

Auto Adjusted Current Time Data Storage Area 206606*b*4 (S2). CPU 211 (FIG. 1) adjusts the auto adjusted current time data by referring to the accurate current time data retrieved in S1 (S3). CPU 211 (FIG. 1) stores the auto adjusted current time data adjusted in the previous step in Auto Adjusted Current Time Data Storage Area 206606*b*4 (S4). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Auto Adjusted Current Time Data Displaying Software 206606*c*3 of Communication Device 200, which display(s) the auto adjusted current time data. The auto adjusted current time data may be displayed at the lower right corner of LCD 201 (FIG. 1). In this embodiment, CPU 211 (FIG. 1) retrieves the auto adjusted current time data from Auto Adjusted Current Time Data Storage Area 206606*b*4 (S1). CPU 211 (FIG. 1) displays the auto adjusted current time data retrieved in the previous step on LCD 201 (FIG. 1) (S2). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Recorded Audiovisual Data Producing Software 206606*c*4 of Communication Device 200, which produce(s) the recorded audiovisual data and the recorded time data. In this embodiment, the user of Communication Device 200 inputs, by utilizing Input Device 210 (FIG. 1) or via voice recognition system, the recorded audiovisual data producing command (S1). Here, the recorded audiovisual data producing command is the command to produce the recorded audiovisual data and the recorded time data. CPU 211 (FIG. 1) retrieves audiovisual data via Microphone 215 (FIG. 1) and CCD Unit 214 (FIG. 1) (S2). CPU 211 (FIG. 1) produces the current audiovisual data by utilizing the audiovisual data retrieved in the previous step (S3). CPU 211 (FIG. 1) stores the current audiovisual data produced in the previous step in Current Audiovisual Data Storage Area 206606*b*1 (S4). CPU 211 (FIG. 1) retrieves the current audiovisual data from Current Audiovisual Data Storage Area 206606*b*1 (S5). CPU 211 (FIG. 1) stores the current audiovisual data retrieved in the previous step as the recorded audiovisual data in Recorded Audiovisual Data Storage Area 206606*b*2 (S6). CPU 211 (FIG. 1) retrieves the recorded audiovisual data from Recorded Audiovisual Data Storage Area 206606*b*2 (S7). CPU 211 (FIG. 1) displays the visual portion of the recorded audiovisual data retrieved in the previous step on LCD 201 (FIG. 1) (S8). CPU 211 (FIG. 1) retrieves the auto adjusted current time data from Auto Adjusted Current Time Data Storage Area 206606*b*4 (S9). CPU 211 (FIG. 1) stores the auto adjusted current time data retrieved in the previous step as the recorded time data in Recorded Time Data Storage Area 206606*b*5 (S10). CPU 211 (FIG. 1) retrieves the recorded time data from Recorded Time Data Storage Area 206606*b*5 (S11). CPU 211 (FIG. 1) displays the recorded time data retrieved in the previous step on LCD 201 (FIG. 1) (S12). CPU 211 (FIG. 1) repeats S2 through S12 (S13).

This paragraph illustrate(s) Recorded Audiovisual Data Replaying Software 206606*c*5 of Communication Device 200, which replay(s) the recorded audiovisual data and the recorded time data. In this embodiment, the user of Communication Device 200 inputs, by utilizing Input Device 210 (FIG. 1) or via voice recognition system, the recorded audiovisual data replaying command (S1). Here, the recorded audiovisual data replaying command is the command to replay the recorded audiovisual data and the recorded time data. CPU 211 (FIG. 1) retrieves the recorded audiovisual data from Recorded Audiovisual Data Storage Area 206606*b*2 (S2). CPU 211 (FIG. 1) outputs the recorded audiovisual data retrieved in the previous step from Speaker 216 (FIG. 1) and LCD 201 (FIG. 1) (S3). CPU 211 (FIG. 1)

retrieves the recorded time data from Recorded Time Data Storage Area 206606b5 (S4). CPU 211 (FIG. 1) displays the recorded time data retrieved in the previous step on LCD 201 (FIG. 1) (S5). Thus, the recorded audiovisual data is replayed, and the recorded time data is replayed in synchronization therewith. CPU 211 (FIG. 1) repeats S2 through S5 (S6).

<<Location Identified Device Information Displaying Function>>

The following paragraphs illustrate the location identified device information displaying function, wherein an icon indicating the current location of another device is displayed on the map, when the icon is selected, the personal information relating to the user of the another device is displayed on LCD 201 (FIG. 1). As another embodiment, when the icon is selected, the phone number of the user of the another device is displayed on LCD 201 (FIG. 1), and the phone call is operable to be implemented thereafter. As another embodiment, when the icon is selected, a blank email of which the addressee is the user of the another device is displayed on LCD 201 (FIG. 1), and an email is operable to be authored and sent to the another device thereafter.

This paragraph illustrates the major elements utilized to implement the present function. In this embodiment, Host H is connected to Network NT (e.g., the Internet). Device A, a Communication Device 200, is connected to Network NT (e.g., the Internet) in a wireless fashion. Device B, another Communication Device 200, is connected to Network NT (e.g., the Internet) in a wireless fashion. Host H, Device A, and Device B are capable to communicate with each other via Network NT (e.g., the Internet) to implement the present function. Device A and Device B are also capable to communicate with each other directly in a wireless fashion to implement the present function.

This paragraph illustrates the storage area included in Host H. In this embodiment, Host H includes Location Identified Device Information Displaying Information Storage Area H607a of which the data and the software program(s) stored therein are described hereinafter.

This paragraph illustrates the storage area(s) included in Location Identified Device Information Displaying Information Storage Area H607a. In this embodiment, Location Identified Device Information Displaying Information Storage Area H607a includes Location Identified Device Information Displaying Data Storage Area H607b and Location Identified Device Information Displaying Software Storage Area H607c. Location Identified Device Information Displaying Data Storage Area H607b stores the data necessary to implement the present function on the side of Host H, such as the one(s) described hereinafter. Location Identified Device Information Displaying Software Storage Area H607c stores the software program(s) necessary to implement the present function on the side of Host H, such as the one(s) described hereinafter.

This paragraph illustrates the storage area(s) included in Location Identified Device Information Displaying Data Storage Area H607b. In this embodiment, Location Identified Device Information Displaying Data Storage Area H607b includes Party Location Data Storage Area H607b1, Map Data Storage Area H607b2, Party Icon Data Storage Area H607b3, Party Personal Data Storage Area H607b4, Party Phone Data Storage Area H607b5, Party Email Data Storage Area H607b6, and Work Area H607b7. Party Location Data Storage Area H607b1 stores the data described hereinafter. Map Data Storage Area H607b2 stores the map data which is the image data indicating a map. Party Icon Data Storage Area H607b3 stores the data described hereinafter. Party Personal Data Storage Area H607b4 stores the data described herein-

after. Party Phone Data Storage Area H607b5 stores the data described hereinafter. Party Email Data Storage Area H607b6 stores the data described hereinafter. Work Area H607b7 is utilized as a work area to perform calculation and temporarily store data.

This paragraph illustrates the storage area(s) included in Party Location Data Storage Area H607b1. In this embodiment, Party Location Data Storage Area H607b1 includes 1st Location Data Storage Area H607b1a and 2nd Location Data Storage Area H607b1b. 1st Location Data Storage Area H607b1a stores the 1st location data which indicates the current geographic location of Device A in (x,y,z) format. 2nd Location Data Storage Area H607b1b stores the 2nd location data which indicates the current geographic location of Device B in (x,y,z) format.

This paragraph illustrates the storage area(s) included in Party Icon Data Storage Area H607b3. In this embodiment, Party Icon Data Storage Area H607b3 includes 1st Icon Data Storage Area H607b3a and 2nd Icon Data Storage Area H607b3b. 1st Icon Data Storage Area H607b3a stores the 1st icon data which is the image of the icon utilized to indicate the 1st location data on the map data. 2nd Icon Data Storage Area H607b3b stores the 2nd icon data which is the image of the icon utilized to indicate the 2nd location data on the map data.

This paragraph illustrates the storage area(s) included in Party Personal Data Storage Area H607b4. In this embodiment, Party Personal Data Storage Area H607b4 includes 1st Personal Data Storage Area H607b4a and 2nd Personal Data Storage Area H607b4b. 1st Personal Data Storage Area H607b4a stores the 1st personal data which indicates the personal data of the user of Device A (e.g., name, street address, email address, phone number, and/or fax number). 2nd Personal Data Storage Area H607b4b stores the 2nd personal data which indicates the personal data of the user of Device B (e.g., name, street address, email address, phone number, and/or fax number).

This paragraph illustrates the storage area(s) included in Party Phone Data Storage Area H607b5. In this embodiment, Party Phone Data Storage Area H607b5 includes 1st Phone Data Storage Area H607b5a and 2nd Phone Data Storage Area H607b5b. 1st Phone Data Storage Area H607b5a stores the 1st phone data which indicates the phone number of Device A. 2nd Phone Data Storage Area H607b5b stores the 2nd phone data which indicates the phone number of Device B.

This paragraph illustrates the storage area(s) included in Party Email Data Storage Area H607b6. In this embodiment, Party Email Data Storage Area H607b6 includes 1st Email Data Storage Area H607b6a and 2nd Email Data Storage Area H607b6b. 1st Email Data Storage Area H607b6a stores the 1st email data which indicates the email address of Device A. 2nd Email Data Storage Area H607b6b stores the 2nd email data which indicates the email address of Device B.

This paragraph illustrates the software program(s) stored in Location Identified Device Information Displaying Software Storage Area H607c. In this embodiment, Location Identified Device Information Displaying Software Storage Area H607c stores 1st Location Data Producing Software H607c1, 2nd Location Data Sharing Software H607c3, Device Location Displaying Software H607c4, 2nd Personal Data Displaying Software H607c5, Calling Device B Software H607c6, and Email Device B Software H607c7. 1st Location Data Producing Software H607c1 is the software program described hereinafter. 2nd Location Data Sharing Software H607c3 is the software program described hereinafter. Device Location Displaying Software H607c4 is the software program described hereinafter. 2nd Personal Data

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Displaying Software H607c5 is the software program described hereinafter. Calling Device B Software H607c6 is the software program described hereinafter. Email Device B Software H607c7 is the software program described hereinafter.

This paragraph illustrates the storage area included in RAM 206 (FIG. 1) of Device A. In this embodiment, RAM 206 includes Location Identified Device Information Displaying Information Storage Area 206A607a of which the data and the software program(s) stored therein are described hereinafter.

The data and/or the software program(s) necessary to implement the present function may be downloaded from Host H to Device A.

This paragraph illustrates the storage area(s) included in Location Identified Device Information Displaying Information Storage Area 206A607a. In this embodiment, Location Identified Device Information Displaying Information Storage Area 206A607a includes Location Identified Device Information Displaying Data Storage Area 206A607b and Location Identified Device Information Displaying Software Storage Area 206A607c. Location Identified Device Information Displaying Data Storage Area 206A607b stores the data necessary to implement the present function on the side of Device A, such as the one(s) described hereinafter. Location Identified Device Information Displaying Software Storage Area 206A607c stores the software program(s) necessary to implement the present function on the side of Device A, such as the one(s) described hereinafter.

This paragraph illustrates the storage area(s) included in Location Identified Device Information Displaying Data Storage Area 206A607b. In this embodiment, Location Identified Device Information Displaying Data Storage Area 206A607b includes Party Location Data Storage Area 206A607b1, Map Data Storage Area 206A607b2, Party Icon Data Storage Area 206A607b3, Party Personal Data Storage Area 206A607b4, Party Phone Data Storage Area 206A607b5, Party Email Data Storage Area 206A607b6, and Work Area 206A607b7. Party Location Data Storage Area 206A607b1 stores the data described hereinafter. Map Data Storage Area 206A607b2 stores the map data which is the image data indicating a map. Party Icon Data Storage Area 206A607b3 stores the data described hereinafter. Party Personal Data Storage Area 206A607b4 stores the data described hereinafter. Party Phone Data Storage Area 206A607b5 stores the data described hereinafter. Party Email Data Storage Area 206A607b6 stores the data described hereinafter. Work Area 206A607b7 is utilized as a work area to perform calculation and temporarily store data.

This paragraph illustrates the storage area(s) included in Party Location Data Storage Area 206A607b1. In this embodiment, Party Location Data Storage Area 206A607b1 includes 1st Location Data Storage Area 206A607b1a and 2nd Location Data Storage Area 206A607b1b. 1st Location Data Storage Area 206A607b1a stores the 1st location data which indicates the current geographic location of Device A in (x,y,z) format. 2nd Location Data Storage Area 206A607b1b stores the 2nd location data which indicates the current geographic location of Device B in (x,y,z) format.

This paragraph illustrates the storage area(s) included in Party Icon Data Storage Area 206A607b3. In this embodiment, Party Icon Data Storage Area 206A607b3 includes 1st Icon Data Storage Area 206A607b3a and 2nd Icon Data Storage Area 206A607b3b. 1st Icon Data Storage Area 206A607b3a stores the 1st icon data which is the image of the icon utilized to indicate the 1st location data on the map data.

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2nd Icon Data Storage Area 206A607b3b stores the 2nd icon data which is the image of the icon utilized to indicate the 2nd location data on the map data.

This paragraph illustrates the storage area(s) included in Party Personal Data Storage Area 206A607b4. In this embodiment, Party Personal Data Storage Area 206A607b4 includes 1st Personal Data Storage Area 206A607b4a and 2nd Personal Data Storage Area 206A607b4b. 1st Personal Data Storage Area 206A607b4a stores the 1st personal data which indicates the personal data of the user of Device A (e.g., name, street address, email address, phone number, and/or fax number). 2nd Personal Data Storage Area 206A607b4b stores the 2nd personal data which indicates the personal data of the user of Device B (e.g., name, street address, email address, phone number, and/or fax number).

This paragraph illustrates the storage area(s) included in Party Phone Data Storage Area 206A607b5. In this embodiment, Party Phone Data Storage Area 206A607b5 includes 1st Phone Data Storage Area 206A607b5a and 2nd Phone Data Storage Area 206A607b5b. 1st Phone Data Storage Area 206A607b5a stores the 1st phone data which indicates the phone number of Device A. 2nd Phone Data Storage Area 206A607b5b stores the 2nd phone data which indicates the phone number of Device B.

This paragraph illustrates the storage area(s) included in Party Email Data Storage Area 206A607b6. In this embodiment, Party Email Data Storage Area 206A607b6 includes 1st Email Data Storage Area 206A607b6a and 2nd Email Data Storage Area 206A607b6b. 1st Email Data Storage Area 206A607b6a stores the 1st email data which indicates the email address of Device A. 2nd Email Data Storage Area 206A607b6b stores the 2nd email data which indicates the email address of Device B.

This paragraph illustrates the software program(s) stored in Location Identified Device Information Displaying Software Storage Area 206A607c. In this embodiment, Location Identified Device Information Displaying Software Storage Area 206A607c stores 1st Location Data Producing Software 206A607c1, 2nd Location Data Sharing Software 206A607c3, Device Location Displaying Software 206A607c4, 2nd Personal Data Displaying Software 206A607c5, Calling Device B Software 206A607c6, and Email Device B Software 206A607c7. 1st Location Data Producing Software 206A607c1 is the software program described hereinafter. 2nd Location Data Sharing Software 206A607c3 is the software program described hereinafter. Device Location Displaying Software 206A607c4 is the software program described hereinafter. 2nd Personal Data Displaying Software 206A607c5 is the software program described hereinafter. Calling Device B Software 206A607c6 is the software program described hereinafter. Email Device B Software 206A607c7 is the software program described hereinafter.

This paragraph illustrates the storage area included in RAM 206 (FIG. 1) of Device B. In this embodiment, RAM 206 includes Location Identified Device Information Displaying Information Storage Area 206B607a of which the data and the software program(s) stored therein are described hereinafter.

The data and/or the software program(s) necessary to implement the present function may be downloaded from Host H to Device B.

This paragraph illustrates the storage area(s) included in Location Identified Device Information Displaying Information Storage Area 206B607a. In this embodiment, Location Identified Device Information Displaying Information Storage Area 206B607a includes Location Identified Device

Information Displaying Data Storage Area 206B607*b* and Location Identified Device Information Displaying Software Storage Area 206B607*c*. Location Identified Device Information Displaying Data Storage Area 206B607*b* stores the data necessary to implement the present function on the side of Device B, such as the one(s) described hereinafter. Location Identified Device Information Displaying Software Storage Area 206B607*c* stores the software program(s) necessary to implement the present function on the side of Device B, such as the one(s) described hereinafter.

This paragraph illustrates the storage area(s) included in Location Identified Device Information Displaying Data Storage Area 206B607*b*. In this embodiment, Location Identified Device Information Displaying Data Storage Area 206B607*b* includes Party Location Data Storage Area 206B607*b*1, Map Data Storage Area 206B607*b*2, Party Icon Data Storage Area 206B607*b*3, Party Personal Data Storage Area 206B607*b*4, Party Phone Data Storage Area 206B607*b*5, Party Email Data Storage Area 206B607*b*6, and Work Area 206B607*b*7. Party Location Data Storage Area 206B607*b*1 stores the data described hereinafter. Map Data Storage Area 206B607*b*2 stores the map data which is the image data indicating a map. Party Icon Data Storage Area 206B607*b*3 stores the data described hereinafter. Party Personal Data Storage Area 206B607*b*4 stores the data described hereinafter. Party Phone Data Storage Area 206B607*b*5 stores the data described hereinafter. Party Email Data Storage Area 206B607*b*6 stores the data described hereinafter. Work Area 206B607*b*7 is utilized as a work area to perform calculation and temporarily store data.

This paragraph illustrates the storage area(s) included in Party Location Data Storage Area 206B607*b*1. In this embodiment, Party Location Data Storage Area 206B607*b*1 includes 1st Location Data Storage Area 206B607*b*1*a* and 2nd Location Data Storage Area 206B607*b*1*b*. 1st Location Data Storage Area 206B607*b*1*a* stores the 1st location data which indicates the current geographic location of Device A in (x,y,z) format. 2nd Location Data Storage Area 206B607*b*1*b* stores the 2nd location data which indicates the current geographic location of Device B in (x,y,z) format.

This paragraph illustrates the storage area(s) included in Party Icon Data Storage Area 206B607*b*3. In this embodiment, Party Icon Data Storage Area 206B607*b*3 includes 1st Icon Data Storage Area 206B607*b*3*a* and 2nd Icon Data Storage Area 206B607*b*3*b*. 1st Icon Data Storage Area 206B607*b*3*a* stores the 1st icon data which is the image of the icon utilized to indicate the 1st location data on the map data. 2nd Icon Data Storage Area 206B607*b*3*b* stores the 2nd icon data which is the image of the icon utilized to indicate the 2nd location data on the map data.

This paragraph illustrates the storage area(s) included in Party Personal Data Storage Area 206B607*b*4. In this embodiment, Party Personal Data Storage Area 206B607*b*4 includes 1st Personal Data Storage Area 206B607*b*4*a* and 2nd Personal Data Storage Area 206B607*b*4*b*. 1st Personal Data Storage Area 206B607*b*4*a* stores the 1st personal data which indicates the personal data of the user of Device A (e.g., name, street address, email address, phone number, and/or fax number). 2nd Personal Data Storage Area 206B607*b*4*b* stores the 2nd personal data which indicates the personal data of the user of Device B (e.g., name, street address, email address, phone number, and/or fax number).

This paragraph illustrates the storage area(s) included in Party Phone Data Storage Area 206B607*b*5. In this embodiment, Party Phone Data Storage Area 206B607*b*5 includes 1st Phone Data Storage Area 206B607*b*5*a* and 2nd Phone Data Storage Area 206B607*b*5*b*. 1st Phone Data Storage Area

206B607*b*5*a* stores the 1st phone data which indicates the phone number of Device A. 2nd Phone Data Storage Area 206B607*b*5*b* stores the 2nd phone data which indicates the phone number of Device B.

This paragraph illustrates the storage area(s) included in Party Email Data Storage Area 206B607*b*6. In this embodiment, Party Email Data Storage Area 206B607*b*6 includes 1st Email Data Storage Area 206B607*b*6*a* and 2nd Email Data Storage Area 206B607*b*6*b*. 1st Email Data Storage Area 206B607*b*6*a* stores the 1st email data which indicates the email address of Device A. 2nd Email Data Storage Area 206B607*b*6*b* stores the 2nd email data which indicates the email address of Device B.

This paragraph illustrates the software program(s) stored in Location Identified Device Information Displaying Software Storage Area 206B607*c*. In this embodiment, Location Identified Device Information Displaying Software Storage Area 206B607*c* stores 2nd Location Data Producing Software 206B607*c*2 and 2nd Location Data Sharing Software 206B607*c*3. 2nd Location Data Producing Software 206B607*c*2 is the software program described hereinafter. 2nd Location Data Sharing Software 206B607*c*3 is the software program described hereinafter.

This paragraph illustrate(s) 1st Location Data Producing Software H607*c*1 of Host H and 1st Location Data Producing Software 206A607*c*1 of Device A, which produce(s) the 1st location data. In this embodiment, CPU 211 (FIG. 1) of Device A identifies the current location of Device A (S1). CPU 211 (FIG. 1) of Device A produces the 1st location data by referring to the current location identified in the previous step and sends the data to Host H in a wireless fashion (S2). Host H receives the 1st location data from Device A and stores the data in 1st Location Data Storage Area H607*b*1*a* (S3). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) 2nd Location Data Producing Software 206B607*c*2 of Device B, which produce(s) the 2nd location data. In this embodiment, CPU 211 (FIG. 1) of Device B identifies the current location of Device B (S1). CPU 211 (FIG. 1) of Device B produces the 2nd location data by referring to the current location identified in the previous step (S2). CPU 211 (FIG. 1) of Device B stores the 2nd location data produced in the previous step in 2nd Location Data Storage Area 206B607*b*1*b* (S3). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) 2nd Location Data Sharing Software H607*c*3 of Host H and 2nd Location Data Sharing Software 206B607*c*3 of Device B, which share(s) the 2nd location data. In this embodiment, CPU 211 (FIG. 1) of Device B retrieves the 2nd location data from 2nd Location Data Storage Area 206B607*b*1*b* and sends the data to Host H in a wireless fashion (S1). Host H receives the 2nd location data from Device B and stores the data in 2nd Location Data Storage Area H607*b*1*b* (S2). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Device Location Displaying Software H607*c*4 of Host H and Device Location Displaying Software 206A607*c*4 of Device A, which display(s) the locations of Device A and Device B. In this embodiment, Host H retrieves the map data from Map Data Storage Area H607*b*2 and sends the data to Device A (S1). CPU 211 (FIG. 1) of Device A receives the map data from Host H in a wireless fashion and displays the data on LCD 201 (FIG. 1) of Device A (S2). Host H retrieves the 1st location data from 1st Location Data Storage Area H607*b*1*a* and sends the data to Device A (S3). CPU 211 (FIG. 1) of Device A receives the 1st location data from Host H in a wireless fashion (S4). Host H retrieves the 1st icon data from 1st Icon Data Storage Area

H607*b*3*a* and sends the data to Device A (S5). CPU 211 (FIG. 1) of Device A receives the 1st icon data from Host H in a wireless fashion (S6). CPU 211 (FIG. 1) of Device A displays the 1st icon data received in the previous step at the location corresponding to the 1st location data received in S4 on the map data displayed in S2 (S7). Host H retrieves the 2nd location data from 2nd Location Data Storage Area H607*b*1*b* and sends the data to Device A (S8). CPU 211 (FIG. 1) of Device A receives the 2nd location data from Host H in a wireless fashion (S9). Host H retrieves the 2nd icon data from 2nd Icon Data Storage Area H607*b*3*b* and sends the data to Device A (S10). CPU 211 (FIG. 1) of Device A receives the 2nd icon data from Host H in a wireless fashion (S11). CPU 211 (FIG. 1) of Device A displays the 2nd icon data received in the previous step at the location corresponding to the 2nd location data received in S9 on the map data displayed in S2 (S12). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) 2nd Personal Data Displaying Software H607*c*5 of Host H and 2nd Personal Data Displaying Software 206A607*c*5 of Device A, which display(s) the 2nd personal data. In this embodiment, the user of Device A selects, by utilizing Input Device 210 (FIG. 1) or via voice recognition system, the 2nd icon data displayed on the map data (S1). the user of Device A inputs, by utilizing Input Device 210 (FIG. 1) or via voice recognition system, the 2nd personal data displaying command (S2). Here, the 2nd personal data displaying command is the command to display the 2nd personal data. CPU 211 (FIG. 1) of Device A sends the 2nd personal data displaying command input in the previous step to Host H in a wireless fashion (S3). Host H receives the 2nd personal data displaying command from Device A (S4). Host H retrieves the 2nd personal data from 2nd Personal Data Storage Area H607*b*4*b* and sends the data to Device A (S5). CPU 211 (FIG. 1) of Device A receives the 2nd personal data from Host H in a wireless fashion and displays the data on LCD 201 (FIG. 1) of Device A (S6).

This paragraph illustrate(s) Calling Device B Software H607*c*6 of Host H and Calling Device B Software 206A607*c*6 of Device A, which dial(s) the phone number of Device B. In this embodiment, the user of Device A selects, by utilizing Input Device 210 (FIG. 1) or via voice recognition system, the 2nd icon data displayed on the map data (S1). The user of Device A inputs, by utilizing Input Device 210 (FIG. 1) or via voice recognition system, the Device B calling command (S2). Here, the Device B calling command is the command to dial the phone number of Device B. CPU 211 (FIG. 1) of Device A sends the Device B calling command input in the previous step to Host H in a wireless fashion (S3). Host H receives the Device B calling command from Device A (S4). Host H retrieves the 2nd phone data from 2nd Phone Data Storage Area H607*b*5*b* and sends the data to Device A (S5). CPU 211 (FIG. 1) of Device A receives the 2nd phone data from Host H in a wireless fashion and displays the data on LCD 201 (FIG. 1) of Device A (S6). The user of Device A inputs, by utilizing Input Device 210 (FIG. 1) or via voice recognition system, the phone dialing command (S7). Here, the phone dialing command is the command to dial the phone number of Device B. Voice communication is implemented between the user of Device A and the user of Device B thereafter.

This paragraph illustrate(s) Email Device B Software H607*c*7 of Host H and Email Device B Software 206A607*c*7 of Device A, which display(s) a blank email of which the addressee is the user of Device B. In this embodiment, the user of Device A selects, by utilizing Input Device 210 (FIG. 1) or via voice recognition system, the 2nd icon data displayed on the map data (S1). The user of Device A inputs, by

utilizing Input Device 210 (FIG. 1) or via voice recognition system, the Device B email command (S2). Here, the Device B email command is the command to produce a blank email of which the addressee is the user of Device B. CPU 211 (FIG. 1) of Device A produces a blank email (S3). CPU 211 (FIG. 1) of Device A displays the blank email produced in the previous step on LCD 201 (FIG. 1) of Device A (S4). CPU 211 (FIG. 1) of Device A sends the Device B email command input in S2 to Host H in a wireless fashion (S5). Host H receives the Device B email command from Device A (S6). Host H retrieves the 2nd email data from 2nd Email Data Storage Area H607*b*6*b* and sends the data to Device A (S7). CPU 211 (FIG. 1) of Device A receives the 2nd email data from Host H in a wireless fashion (S8). CPU 211 (FIG. 1) of Device A inserts the 2nd email data received in the previous step as the addressee of the blank email displayed in S4 (S9). The user of Device A authors an email by utilizing the blank email displayed in S4 (S10). The authored email of which the addressee is the user of Device B is transferred to Device B in a wireless fashion by the command input by the user of Device A thereafter.

The following paragraphs illustrate another embodiment wherein Device A plays the major role in implementing the present function.

This paragraph illustrate(s) 1st Location Data Producing Software 206A607*c*1 of Device A, which produce(s) the 1st location data. In this embodiment, CPU 211 (FIG. 1) of Device A identifies the current location of Device A (S1). CPU 211 (FIG. 1) of Device A produces the 1st location data by referring to the current location identified in the previous step (S2). CPU 211 (FIG. 1) of Device A stores the 1st location data produced in the previous step in 1st Location Data Storage Area 206A607*b*1*a* (S3). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) 2nd Location Data Producing Software 206B607*c*2 of Device B, which produce(s) the 2nd location data. In this embodiment, CPU 211 (FIG. 1) of Device B identifies the current location of Device B (S1). CPU 211 (FIG. 1) of Device B produces the 2nd location data by referring to the current location identified in the previous step (S2). CPU 211 (FIG. 1) of Device B stores the 2nd location data produced in the previous step in 2nd Location Data Storage Area 206B607*b*1*b* (S3). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) 2nd Location Data Sharing Software 206A607*c*3 of Device A and 2nd Location Data Sharing Software 206B607*c*3 of Device B, which share(s) the 2nd location data. In this embodiment, CPU 211 (FIG. 1) of Device B retrieves the 2nd location data from 2nd Location Data Storage Area 206B607*b*1*b* and sends the data to Device A in a wireless fashion (S1). CPU 211 (FIG. 1) of Device A receives the 2nd location data from Device B in a wireless fashion and stores the data in 2nd Location Data Storage Area 206A607*b*1*b* (S2). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Device Location Displaying Software 206A607*c*4 of Device A, which display(s) the locations of Device A and Device B. In this embodiment, CPU 211 (FIG. 1) of Device A retrieves the map data from Map Data Storage Area 206A607*b*2 (S1). CPU 211 (FIG. 1) of Device A displays the map data retrieved in the previous step on LCD 201 (FIG. 1) of Device A (S2). CPU 211 (FIG. 1) of Device A retrieves the 1st location data from 1st Location Data Storage Area 206A607*b*1*a* (S3). CPU 211 (FIG. 1) of Device A retrieves the 1st icon data from 1st Icon Data Storage Area 206A607*b*3*a* (S4). CPU 211 (FIG. 1) of Device A displays the 1st icon data retrieved in the previous step at the

location corresponding to the 1st location data retrieved in S3 on the map data displayed in S2 (S5). CPU **211** (FIG. **1**) of Device A retrieves the 2nd location data from 2nd Location Data Storage Area **206A607b1b** (S6). CPU **211** (FIG. **1**) of Device A retrieves the 2nd icon data from 2nd Icon Data Storage Area **206A607b3b** (S7). CPU **211** (FIG. **1**) of Device A displays the 2nd icon data retrieved in the previous step at the location corresponding to the 2nd location data retrieved in S6 on the map data displayed in S2 (S8). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) 2nd Personal Data Displaying Software **206A607c5** of Device A, which display(s) the 2nd personal data. In this embodiment, the user of Device A selects, by utilizing Input Device **210** (FIG. **1**) or via voice recognition system, the 2nd icon data displayed on the map data (S1). The user of Device A inputs, by utilizing Input Device **210** (FIG. **1**) or via voice recognition system, the 2nd personal data displaying command (S2). Here, the 2nd personal data displaying command is the command to display the 2nd personal data. CPU **211** (FIG. **1**) of Device A retrieves the 2nd personal data from 2nd Personal Data Storage Area **206A607b4b** (S3). CPU **211** (FIG. **1**) of Device A displays the 2nd personal data retrieved in the previous step on LCD **201** (FIG. **1**) of Device A (S4).

This paragraph illustrate(s) Calling Device B Software **206A607c6** of Device A, which dial(s) the phone number of Device B. In this embodiment, the user of Device A selects, by utilizing Input Device **210** (FIG. **1**) or via voice recognition system, the 2nd icon data displayed on the map data (S1). The user of Device A inputs, by utilizing Input Device **210** (FIG. **1**) or via voice recognition system, the Device B calling command (S2). Here, the Device B calling command is the command to dial the phone number of Device B. CPU **211** (FIG. **1**) of Device A retrieves the 2nd phone data from 2nd Phone Data Storage Area **206A607b5b** (S3). CPU **211** (FIG. **1**) of Device A displays the 2nd phone data retrieved in the previous step on LCD **201** (FIG. **1**) of Device A (S4). The user of Device A inputs, by utilizing Input Device **210** (FIG. **1**) or via voice recognition system, the phone dialing command (S5). Here, the phone dialing command is the command to dial the phone number of Device B. Voice communication is implemented between the user of Device A and the user of Device B thereafter.

This paragraph illustrate(s) Email Device B Software **206A607c7** of Device A, which display(s) a blank email of which the addressee is the user of Device B. In this embodiment, the user of Device A selects, by utilizing Input Device **210** (FIG. **1**) or via voice recognition system, the 2nd icon data displayed on the map data (S1). The user of Device A inputs, by utilizing Input Device **210** (FIG. **1**) or via voice recognition system, the Device B email command (S2). Here, the Device B email command is the command to produce a blank email of which the addressee is the user of Device B. CPU **211** (FIG. **1**) of Device A produces a blank email (S3). CPU **211** (FIG. **1**) of Device A displays the blank email produced in the previous step on LCD **201** (FIG. **1**) of Device A (S4). CPU **211** (FIG. **1**) of Device A retrieves the 2nd email data from 2nd Email Data Storage Area **206A607b6b** (S5). CPU **211** (FIG. **1**) of Device A inserts the 2nd email data retrieved in the previous step as the addressee of the blank email displayed in S4 (S6). The user of Device A authors an email by utilizing the blank email displayed in S4 (S7). The authored email of which the addressee is the user of Device B is transferred to Device B in a wireless fashion by the command input by the user of Device A thereafter.

<<Pistol Monitoring Function>>

The following paragraphs illustrate the pistol monitoring function, wherein the communication device is included in a weapon, the communication device produces and displays the fired bullet number data, the remaining bullet number data, the current time data, and the bullet fired log data, wherein the bullet fired log data indicates the time and geographic location at which the bullet was fired. Further, the fired bullet number data, the remaining bullet number data, the current time data, and the bullet fired log data are operable to be displayed on another device.

This paragraph illustrates the major elements utilized to implement the present function. In this embodiment, Host H is connected to Network NT (e.g., the Internet). Device A, a Communication Device **200**, is connected to Network NT (e.g., the Internet) in a wireless fashion. Device B, another Communication Device **200**, is connected to Network NT (e.g., the Internet) in a wireless fashion. Host H, Device A, and Device B are capable to communicate with each other via Network NT (e.g., the Internet) to implement the present function. Device A and Device B are also capable to communicate with each other directly in a wireless fashion to implement the present function.

This paragraph illustrates the relationship between Pistol P**610**, Bullet Case BC**610**, and Device A. In this embodiment, Pistol P**610** includes Bullet Case BC**610** and Device A. Pistol P**610** is a pistol, rifle, machine gun, shot gun, or any type of weapon designed to kill living creature including human being by firing bullet therefrom. Bullet Case BC**610** is the case or cartridge in which bullets are stored.

This paragraph illustrates the storage area included in Host H. In this embodiment, Host H includes Pistol Monitoring Information Storage Area H**610a** of which the data and the software program(s) stored therein are described hereinafter.

This paragraph illustrates the storage area(s) included in Pistol Monitoring Information Storage Area H**610a**. In this embodiment, Pistol Monitoring Information Storage Area H**610a** includes Pistol Monitoring Data Storage Area H**610b** and Pistol Monitoring Software Storage Area H**610c**. Pistol Monitoring Data Storage Area H**610b** stores the data necessary to implement the present function on the side of Host H, such as the one(s) described hereinafter. Pistol Monitoring Software Storage Area H**610c** stores the software program(s) necessary to implement the present function on the side of Host H, such as the one(s) described hereinafter.

This paragraph illustrates the storage area(s) included in Pistol Monitoring Data Storage Area H**610b**. In this embodiment, Pistol Monitoring Data Storage Area H**610b** includes Fired Bullet Number Data Storage Area H**610b1**, Remaining Bullet Number Data Storage Area H**610b2**, Current Time Data Storage Area H**610b3**, Current Location Data Storage Area H**610b4**, All Bullet Fired Log Data Storage Area H**610b5**, Map Data Storage Area H**610b6**, All Icon Data Storage Area H**610b7**, and Work Area H**610b8**. Fired Bullet Number Data Storage Area H**610b1** stores the fired bullet number data which indicates the number of bullets fired by Pistol P**610**. Remaining Bullet Number Data Storage Area H**610b2** stores the remaining bullet number data which indicates the number of bullets remaining in Bullet Case BC**610**. Current Time Data Storage Area H**610b3** stores the current time data which indicates the current time and date. Current Location Data Storage Area H**610b4** stores the current location data which indicates the current geographic location of Device A in (x,y,z) format. All Bullet Fired Log Data Storage Area H**610b5** stores the data described hereinafter. Map Data Storage Area H**610b6** stores the map data which is the image data indicating a map. All Icon Data Storage Area H**610b7**

stores the data described hereinafter. Work Area H610b8 is utilized as a work area to perform calculation and temporarily store data.

This paragraph illustrates the storage area(s) included in All Bullet Fired Log Data Storage Area H610b5. In this embodiment, All Bullet Fired Log Data Storage Area H610b5 includes 1st Bullet Fired Log Data Storage Area H610b5a and 2nd Bullet Fired Log Data Storage Area H610b5b. 1st Bullet Fired Log Data Storage Area H610b5a stores the 1st bullet fired log data which indicates the log of the 1st bullet fired from Pistol P610. The 1st bullet fired log data includes the 1st bullet fired time data and the 1st bullet fired location data. The 1st bullet fired time data indicates the time and date at which the 1st bullet was fired. The 1st bullet fired location data indicates the geographic location of Pistol P610 at which the 1st bullet was fired. 2nd Bullet Fired Log Data Storage Area H610b5b stores the 2nd bullet fired log data which indicates the log of the 2nd bullet fired from Pistol P610. The 2nd bullet fired log data includes the 2nd bullet fired time data and the 2nd bullet fired location data. The 2nd bullet fired time data indicates the time and date at which the 2nd bullet was fired. The 2nd bullet fired location data indicates the geographic location of Pistol P610 at which the 2nd bullet was fired.

This paragraph illustrates the storage area(s) included in All Icon Data Storage Area H610b7. In this embodiment, All Icon Data Storage Area H610b7 includes 1st Icon Data Storage Area H610b7a, 2nd Icon Data Storage Area H610b7b, and Current Location Icon Data Storage Area H610b7c. 1st Icon Data Storage Area H610b7a stores the 1st icon data which is the image of the icon utilized to indicate the 1st bullet fired location data on the map data. 2nd Icon Data Storage Area H610b7b stores the 2nd icon data which is the image of the icon utilized to indicate the 2nd bullet fired location data on the map data. Current Location Icon Data Storage Area H610b7c stores the current location icon data which is the image of the icon utilized to indicate the current time data on the map data.

This paragraph illustrates the software program(s) stored in Pistol Monitoring Software Storage Area H610c. In this embodiment, Pistol Monitoring Software Storage Area H610c stores Fired Bullet Number Data Producing Software H610c1, Fired Bullet Number Data Displaying Software H610c2, Fired Bullet Number Data Sharing Software H610c3, Remaining Bullet Number Data Producing Software H610c4, Remaining Bullet Number Data Displaying Software H610c5, Remaining Bullet Number Data Sharing Software H610c6, Current Time Data Producing Software H610c7, Current Time Data Displaying Software H610c8, Current Location Data Producing Software H610c9, Current Location Data Displaying Software H610c10, Current Location Data Sharing Software H610c11, 1st Bullet Fired Log Data Producing Software H610c12, 1st Bullet Fired Log Data Displaying Software H610c13, 1st Bullet Fired Log Data Sharing Software H610c14, 2nd Bullet Fired Log Data Producing Software H610c15, 2nd Bullet Fired Log Data Displaying Software H610c16, and 2nd Bullet Fired Log Data Sharing Software H610c17. Fired Bullet Number Data Producing Software H610c1 is the software program described hereinafter. Fired Bullet Number Data Displaying Software H610c2 is the software program described hereinafter. Fired Bullet Number Data Sharing Software H610c3 is the software program described hereinafter. Remaining Bullet Number Data Producing Software H610c4 is the software program described hereinafter. Remaining Bullet Number Data Displaying Software H610c5 is the software program described hereinafter. Remaining Bullet Number Data Sharing Soft-

ware H610c6 is the software program described hereinafter. Current Time Data Producing Software H610c7 is the software program described hereinafter. Current Time Data Displaying Software H610c8 is the software program described hereinafter. Current Location Data Producing Software H610c9 is the software program described hereinafter. Current Location Data Displaying Software H610c10 is the software program described hereinafter. Current Location Data Sharing Software H610c11 is the software program described hereinafter. 1st Bullet Fired Log Data Producing Software H610c12 is the software program described hereinafter. 1st Bullet Fired Log Data Displaying Software H610c13 is the software program described hereinafter. 1st Bullet Fired Log Data Sharing Software H610c14 is the software program described hereinafter. 2nd Bullet Fired Log Data Producing Software H610c15 is the software program described hereinafter. 2nd Bullet Fired Log Data Displaying Software H610c16 is the software program described hereinafter. 2nd Bullet Fired Log Data Sharing Software H610c17 is the software program described hereinafter.

This paragraph illustrates the storage area included in RAM 206 (FIG. 1) of Device A. In this embodiment, RAM 206 includes Pistol Monitoring Information Storage Area 206A610a of which the data and the software program(s) stored therein are described hereinafter.

The data and/or the software program(s) necessary to implement the present function may be downloaded from Host H to Device A.

This paragraph illustrates the storage area(s) included in Pistol Monitoring Information Storage Area 206A610a. In this embodiment, Pistol Monitoring Information Storage Area 206A610a includes Pistol Monitoring Data Storage Area 206A610b and Pistol Monitoring Software Storage Area 206A610c. Pistol Monitoring Data Storage Area 206A610b stores the data necessary to implement the present function on the side of Device A, such as the one(s) described hereinafter. Pistol Monitoring Software Storage Area 206A610c stores the software program(s) necessary to implement the present function on the side of Device A, such as the one(s) described hereinafter.

This paragraph illustrates the storage area(s) included in Pistol Monitoring Data Storage Area 206A610b. In this embodiment, Pistol Monitoring Data Storage Area 206A610b includes Fired Bullet Number Data Storage Area 206A610b1, Remaining Bullet Number Data Storage Area 206A610b2, Current Time Data Storage Area 206A610b3, Current Location Data Storage Area 206A610b4, All Bullet Fired Log Data Storage Area 206A610b5, Map Data Storage Area 206A610b6, All Icon Data Storage Area 206A610b7, and Work Area 206A610b8. Fired Bullet Number Data Storage Area 206A610b1 stores the fired bullet number data which indicates the number of bullets fired by Pistol P610. Remaining Bullet Number Data Storage Area 206A610b2 stores the remaining bullet number data which indicates the number of bullets remaining in Bullet Case BC610. Current Time Data Storage Area 206A610b3 stores the current time data which indicates the current time and date. Current Location Data Storage Area 206A610b4 stores the current location data which indicates the current geographic location of Device A in (x,y,z) format. All Bullet Fired Log Data Storage Area 206A610b5 stores the data described hereinafter. Map Data Storage Area 206A610b6 stores the map data which is the image data indicating a map. All Icon Data Storage Area 206A610b7 stores the data described hereinafter. Work Area 206A610b8 is utilized as a work area to perform calculation and temporarily store data.

This paragraph illustrates the storage area(s) included in All Bullet Fired Log Data Storage Area 206A610*b*5. In this embodiment, All Bullet Fired Log Data Storage Area 206A610*b*5 includes 1st Bullet Fired Log Data Storage Area 206A610*b*5*a* and 2nd Bullet Fired Log Data Storage Area 206A610*b*5*b*. 1st Bullet Fired Log Data Storage Area 206A610*b*5*a* stores the 1st bullet fired log data which indicates the log of the 1st bullet fired from Pistol P610. The 1st bullet fired log data includes the 1st bullet fired time data and the 1st bullet fired location data. The 1st bullet fired time data indicates the time and date at which the 1st bullet was fired. The 1st bullet fired location data indicates the geographic location of Pistol P610 at which the 1st bullet was fired. 2nd Bullet Fired Log Data Storage Area 206A610*b*5*b* stores the 2nd bullet fired log data which indicates the log of the 2nd bullet fired from Pistol P610. The 2nd bullet fired log data includes the 2nd bullet fired time data and the 2nd bullet fired location data. The 2nd bullet fired time data indicates the time and date at which the 2nd bullet was fired. The 2nd bullet fired location data indicates the geographic location of Pistol P610 at which the 2nd bullet was fired.

This paragraph illustrates the storage area(s) included in All Icon Data Storage Area 206A610*b*7. In this embodiment, All Icon Data Storage Area 206A610*b*7 includes 1st Icon Data Storage Area 206A610*b*7*a*, 2nd Icon Data Storage Area 206A610*b*7*b*, and Current Location Icon Data Storage Area 206A610*b*7*c*. 1st Icon Data Storage Area 206A610*b*7*a* stores the 1st icon data which is the image of the icon utilized to indicate the 1st bullet fired location data on the map data. 2nd Icon Data Storage Area 206A610*b*7*b* stores the 2nd icon data which is the image of the icon utilized to indicate the 2nd bullet fired location data on the map data. Current Location Icon Data Storage Area 206A610*b*7*c* stores the current location icon data which is the image of the icon utilized to indicate the current time data on the map data.

This paragraph illustrates the software program(s) stored in Pistol Monitoring Software Storage Area 206A610*c*. In this embodiment, Pistol Monitoring Software Storage Area 206A610*c* stores Fired Bullet Number Data Producing Software 206A610*c*1, Fired Bullet Number Data Displaying Software 206A610*c*2, Fired Bullet Number Data Sharing Software 206A610*c*3, Remaining Bullet Number Data Producing Software 206A610*c*4, Remaining Bullet Number Data Displaying Software 206A610*c*5, Remaining Bullet Number Data Sharing Software 206A610*c*6, Current Time Data Producing Software 206A610*c*7, Current Time Data Displaying Software 206A610*c*8, Current Location Data Producing Software 206A610*c*9, Current Location Data Displaying Software 206A610*c*10, Current Location Data Sharing Software 206A610*c*11, 1st Bullet Fired Log Data Producing Software 206A610*c*12, 1st Bullet Fired Log Data Displaying Software 206A610*c*13, 1st Bullet Fired Log Data Sharing Software 206A610*c*14, 2nd Bullet Fired Log Data Producing Software 206A610*c*15, 2nd Bullet Fired Log Data Displaying Software 206A610*c*16, and 2nd Bullet Fired Log Data Sharing Software 206A610*c*17. Fired Bullet Number Data Producing Software 206A610*c*1 is the software program described hereinafter. Fired Bullet Number Data Displaying Software 206A610*c*2 is the software program described hereinafter. Fired Bullet Number Data Sharing Software 206A610*c*3 is the software program described hereinafter. Remaining Bullet Number Data Producing Software 206A610*c*4 is the software program described hereinafter. Remaining Bullet Number Data Displaying Software 206A610*c*5 is the software program described hereinafter. Remaining Bullet Number Data Sharing Software 206A610*c*6 is the software program described hereinafter.

Current Time Data Producing Software 206A610*c*7 is the software program described hereinafter. Current Time Data Displaying Software 206A610*c*8 is the software program described hereinafter. Current Location Data Producing Software 206A610*c*9 is the software program described hereinafter. Current Location Data Displaying Software 206A610*c*10 is the software program described hereinafter. Current Location Data Sharing Software 206A610*c*11 is the software program described hereinafter. 1st Bullet Fired Log Data Producing Software 206A610*c*12 is the software program described hereinafter. 1st Bullet Fired Log Data Displaying Software 206A610*c*13 is the software program described hereinafter. 1st Bullet Fired Log Data Sharing Software 206A610*c*14 is the software program described hereinafter. 2nd Bullet Fired Log Data Producing Software 206A610*c*15 is the software program described hereinafter. 2nd Bullet Fired Log Data Displaying Software 206A610*c*16 is the software program described hereinafter. 2nd Bullet Fired Log Data Sharing Software 206A610*c*17 is the software program described hereinafter.

This paragraph illustrates the storage area included in RAM 206 (FIG. 1) of Device B. In this embodiment, RAM 206 includes Pistol Monitoring Information Storage Area 206B610*a* of which the data and the software program(s) stored therein are described hereinafter.

The data and/or the software program(s) necessary to implement the present function may be downloaded from Host H to Device B.

This paragraph illustrates the storage area(s) included in Pistol Monitoring Information Storage Area 206B610*a*. In this embodiment, Pistol Monitoring Information Storage Area 206B610*a* includes Pistol Monitoring Data Storage Area 206B610*b* and Pistol Monitoring Software Storage Area 206B610*c*. Pistol Monitoring Data Storage Area 206B610*b* stores the data necessary to implement the present function on the side of Device B, such as the one(s) described hereinafter. Pistol Monitoring Software Storage Area 206B610*c* stores the software program(s) necessary to implement the present function on the side of Device B, such as the one(s) described hereinafter.

This paragraph illustrates the storage area(s) included in Pistol Monitoring Data Storage Area 206B610*b*. In this embodiment, Pistol Monitoring Data Storage Area 206B610*b* includes Fired Bullet Number Data Storage Area 206B610*b*1, Remaining Bullet Number Data Storage Area 206B610*b*2, Current Time Data Storage Area 206B610*b*3, Current Location Data Storage Area 206B610*b*4, All Bullet Fired Log Data Storage Area 206B610*b*5, Map Data Storage Area 206B610*b*6, All Icon Data Storage Area 206B610*b*7, and Work Area 206B610*b*8. Fired Bullet Number Data Storage Area 206B610*b*1 stores the fired bullet number data which indicates the number of bullets fired by Pistol P610. Remaining Bullet Number Data Storage Area 206B610*b*2 stores the remaining bullet number data which indicates the number of bullets remaining in Bullet Case BC610. Current Time Data Storage Area 206B610*b*3 stores the current time data which indicates the current time and date. Current Location Data Storage Area 206B610*b*4 stores the current location data which indicates the current geographic location of Device A in (x,y,z) format. All Bullet Fired Log Data Storage Area 206B610*b*5 stores the data described hereinafter. Map Data Storage Area 206B610*b*6 stores the map data which is the image data indicating a map. All Icon Data Storage Area 206B610*b*7 stores the data described hereinafter. Work Area 206B610*b*8 is utilized as a work area to perform calculation and temporarily store data.

This paragraph illustrates the storage area(s) included in All Bullet Fired Log Data Storage Area 206B610*b*5. In this embodiment, All Bullet Fired Log Data Storage Area 206B610*b*5 includes 1st Bullet Fired Log Data Storage Area 206B610*b*5*a* and 2nd Bullet Fired Log Data Storage Area 206B610*b*5*b*. 1st Bullet Fired Log Data Storage Area 206B610*b*5*a* stores the 1st bullet fired log data which indicates the log of the 1st bullet fired from Pistol P610. The 1st bullet fired log data includes the 1st bullet fired time data and the 1st bullet fired location data. The 1st bullet fired time data indicates the time and date at which the 1st bullet was fired. The 1st bullet fired location data indicates the geographic location of Pistol P610 at which the 1st bullet was fired. 2nd Bullet Fired Log Data Storage Area 206B610*b*5*b* stores the 2nd bullet fired log data which indicates the log of the 2nd bullet fired from Pistol P610. The 2nd bullet fired log data includes the 2nd bullet fired time data and the 2nd bullet fired location data. The 2nd bullet fired time data indicates the time and date at which the 2nd bullet was fired. The 2nd bullet fired location data indicates the geographic location of Pistol P610 at which the 2nd bullet was fired.

This paragraph illustrates the storage area(s) included in All Icon Data Storage Area 206B610*b*7. In this embodiment, All Icon Data Storage Area 206B610*b*7 includes 1st Icon Data Storage Area 206B610*b*7*a*, 2nd Icon Data Storage Area 206B610*b*7*b*, and Current Location Icon Data Storage Area 206B610*b*7*c*. 1st Icon Data Storage Area 206B610*b*7*a* stores the 1st icon data which is the image of the icon utilized to indicate the 1st bullet fired location data on the map data. 2nd Icon Data Storage Area 206B610*b*7*b* stores the 2nd icon data which is the image of the icon utilized to indicate the 2nd bullet fired location data on the map data. Current Location Icon Data Storage Area 206B610*b*7*c* stores the current location icon data which is the image of the icon utilized to indicate the current time data on the map data.

This paragraph illustrates the software program(s) stored in Pistol Monitoring Software Storage Area 206B610*c*. In this embodiment, Pistol Monitoring Software Storage Area 206B610*c* stores Fired Bullet Number Data Displaying Software 206B610*c*2, Fired Bullet Number Data Sharing Software 206B610*c*3, Remaining Bullet Number Data Displaying Software 206B610*c*5, Remaining Bullet Number Data Sharing Software 206B610*c*6, Current Location Data Displaying Software 206B610*c*10, Current Location Data Sharing Software 206B610*c*11, 1st Bullet Fired Log Data Displaying Software 206B610*c*13, 1st Bullet Fired Log Data Sharing Software 206B610*c*14, 2nd Bullet Fired Log Data Displaying Software 206B610*c*16, and 2nd Bullet Fired Log Data Sharing Software 206B610*c*17. Fired Bullet Number Data Displaying Software 206B610*c*2 is the software program described hereinafter. Fired Bullet Number Data Sharing Software 206B610*c*3 is the software program described hereinafter. Remaining Bullet Number Data Displaying Software 206B610*c*5 is the software program described hereinafter. Remaining Bullet Number Data Sharing Software 206B610*c*6 is the software program described hereinafter. Current Location Data Displaying Software 206B610*c*10 is the software program described hereinafter. Current Location Data Sharing Software 206B610*c*11 is the software program described hereinafter. 1st Bullet Fired Log Data Displaying Software 206B610*c*13 is the software program described hereinafter. 1st Bullet Fired Log Data Sharing Software 206B610*c*14 is the software program described hereinafter. 2nd Bullet Fired Log Data Displaying Software 206B610*c*16 is the software program described hereinafter. 2nd Bullet Fired Log Data Sharing Software 206B610*c*17 is the software program described hereinafter.

This paragraph illustrate(s) Fired Bullet Number Data Producing Software H610*c*1 of Host H and Fired Bullet Number Data Producing Software 206A610*c*1 of Device A, which produce(s) the fired bullet number data. In this embodiment, If a bullet is fired from Pistol P610, CPU 211 (FIG. 1) of Device A proceeds to the next step (S1). CPU 211 (FIG. 1) of Device A sends the bullet fired notice to Host H in a wireless fashion (S2). Here, the bullet fired notice indicates that a bullet is fired from Pistol P610. Host H receives the bullet fired notice from Device A (S3). Host H retrieves the fired bullet number data from Fired Bullet Number Data Storage Area H610*b*1 (S4). Host H updates the fired bullet number data retrieved in the previous step by adding one value thereto (S5). Host H stores the fired bullet number data updated in the previous step in Fired Bullet Number Data Storage Area H610*b*1 (S6). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Fired Bullet Number Data Displaying Software H610*c*2 of Host H and Fired Bullet Number Data Displaying Software 206A610*c*2 of Device A, which display(s) the fired bullet number data. In this embodiment, Host H retrieves the fired bullet number data from Fired Bullet Number Data Storage Area H610*b*1 and sends the data to Device A (S1). CPU 211 (FIG. 1) of Device A receives the fired bullet number data from Host H in a wireless fashion and displays the data on LCD 201 (FIG. 1) of Device A (S2). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Fired Bullet Number Data Sharing Software H610*c*3 of Host H and Fired Bullet Number Data Sharing Software 206B610*c*3 of Device B, which share(s) the fired bullet number data. In this embodiment, Host H retrieves the fired bullet number data from Fired Bullet Number Data Storage Area H610*b*1 and sends the data to Device B (S1). CPU 211 (FIG. 1) of Device B receives the fired bullet number data from Host H in a wireless fashion and stores the data in Fired Bullet Number Data Storage Area 206B610*b*1 (S2). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Fired Bullet Number Data Displaying Software 206B610*c*2 of Device B, which display(s) the fired bullet number data. In this embodiment, CPU 211 (FIG. 1) of Device B retrieves the fired bullet number data from Fired Bullet Number Data Storage Area 206B610*b*1 (S1). CPU 211 (FIG. 1) of Device B displays the fired bullet number data retrieved in the previous step on LCD 201 (FIG. 1) of Device B (S2). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Remaining Bullet Number Data Producing Software H610*c*4 of Host H and Remaining Bullet Number Data Producing Software 206A610*c*4 of Device A, which produce(s) the remaining bullet number data. In this embodiment, If a bullet is fired from Pistol P610, CPU 211 (FIG. 1) of Device A proceeds to the next step (S1). CPU 211 (FIG. 1) of Device A sends the bullet fired notice to Host H in a wireless fashion (S2). Here, the bullet fired notice indicates that a bullet is fired from Pistol P610. Host H receives the bullet fired notice from Device A (S3). Host H retrieves the remaining bullet number data from Remaining Bullet Number Data Storage Area H610*b*2 (S4). Host H updates the remaining bullet number data retrieved in the previous step by subtracting one value therefrom (S5). Host H stores the remaining bullet number data updated in the previous step in Remaining Bullet Number Data Storage Area H610*b*2 (S6). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Remaining Bullet Number Data Displaying Software H610*c*5 of Host H and Remaining Bullet Number Data Displaying Software 206A610*c*5 of

Device A, which display(s) the remaining bullet number data. In this embodiment, Host H retrieves the remaining bullet number data from Remaining Bullet Number Data Storage Area H610*b*2 and sends the data to Device A (S1). CPU 211 (FIG. 1) of Device A receives the remaining bullet number data from Host H in a wireless fashion and displays the data on LCD 201 (FIG. 1) of Device A (S2). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Remaining Bullet Number Data Sharing Software H610*c*6 of Host H and Remaining Bullet Number Data Sharing Software 206B610*c*6 of Device B, which share(s) the remaining bullet number data. In this embodiment, Host H retrieves the remaining bullet number data from Remaining Bullet Number Data Storage Area H610*b*2 and sends the data to Device B (S1). CPU 211 (FIG. 1) of Device B receives the remaining bullet number data from Host H in a wireless fashion and stores the data in Remaining Bullet Number Data Storage Area 206B610*b*2 (S2). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Remaining Bullet Number Data Displaying Software 206B610*c*5 of Device B, which display(s) the remaining bullet number data. In this embodiment, CPU 211 (FIG. 1) of Device B retrieves the remaining bullet number data from Remaining Bullet Number Data Storage Area 206B610*b*2 (S1). CPU 211 (FIG. 1) of Device B displays the remaining bullet number data retrieved in the previous step on LCD 201 (FIG. 1) of Device B (S2). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Current Time Data Producing Software H610*c*7 of Host H, which produce(s) the current time data. In this embodiment, Host H identifies the current time and date (S1). Host H produces the current time data by referring to the current time and date identified in the previous step (S2). Host H stores the current time data produced in the previous step in Current Time Data Storage Area H610*b*3 (S3). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Current Time Data Displaying Software H610*c*8 of Host H and Current Time Data Displaying Software 206A610*c*8 of Device A, which display(s) the current time data. In this embodiment, Host H retrieves the current time data from Current Time Data Storage Area H610*b*3 and sends the data to Device A (S1). CPU 211 (FIG. 1) of Device A receives the current time data from Host H in a wireless fashion and displays the data on LCD 201 (FIG. 1) of Device A (S2). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Current Location Data Producing Software H610*c*9 of Host H and Current Location Data Producing Software 206A610*c*9 of Device A, which produce(s) the current location data. In this embodiment, CPU 211 (FIG. 1) of Device A identifies the current location of Device A (S1). CPU 211 (FIG. 1) of Device A produces the current location data by referring to the current location identified in the previous step and sends the data to Host H in a wireless fashion (S2). Host H receives the current location data from Device A and stores the data in Current Location Data Storage Area H610*b*4 (S3). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Current Location Data Displaying Software H610*c*10 of Host H and Current Location Data Displaying Software 206A610*c*10 of Device A, which display(s) the current location data. In this embodiment, Host H retrieves the map data from Map Data Storage Area H610*b*6 and sends the data to Device A (S1). CPU 211 (FIG. 1) of Device A receives the map data from Host H in a wireless fashion and displays the data on LCD 201 (FIG. 1) of Device A (S2). Host H retrieves the current location icon data from

Current Location Icon Data Storage Area H610*b*7*c* and sends the data to Device A (S3). CPU 211 (FIG. 1) of Device A receives the current location icon data from Host H in a wireless fashion (S4). Host H retrieves the current location data from Current Location Data Storage Area H610*b*4 and sends the data to Device A (S5). CPU 211 (FIG. 1) of Device A receives the current location data from Host H in a wireless fashion (S6). CPU 211 (FIG. 1) of Device A displays the current location icon data received in S4 at the location corresponding to the current location data received in the previous step on the map data displayed in S2 (S7). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Current Location Data Sharing Software H610*c*11 of Host H and Current Location Data Sharing Software 206B610*c*11 of Device B, which share(s) the current location data. In this embodiment, Host H retrieves the current location data from Current Location Data Storage Area H610*b*4 and sends the data to Device B (S1). CPU 211 (FIG. 1) of Device B receives the current location data from Host H in a wireless fashion and stores the data in Current Location Data Storage Area 206B610*b*4 (S2). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Current Location Data Displaying Software 206B610*c*10 of Device B, which display(s) the current location data. In this embodiment, CPU 211 (FIG. 1) of Device B retrieves the map data from Map Data Storage Area 206B610*b*6 (S1). CPU 211 (FIG. 1) of Device B displays the map data retrieved in the previous step on LCD 201 (FIG. 1) of Device B (S2). CPU 211 (FIG. 1) of Device B retrieves the current location icon data from Current Location Icon Data Storage Area 206B610*b*7*c* (S3). CPU 211 (FIG. 1) of Device B retrieves the current location data from Current Location Data Storage Area 206B610*b*4 (S4). CPU 211 (FIG. 1) of Device B displays the current location icon data retrieved in S3 at the location corresponding to the current location data retrieved in the previous step on the map data displayed in S2 (S5). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) 1st Bullet Fired Log Data Producing Software H610*c*12 of Host H and 1st Bullet Fired Log Data Producing Software 206A610*c*12 of Device A, which produce(s) the 1st bullet fired log data. In this embodiment, CPU 211 (FIG. 1) of Device A checks the status of Pistol P610 (S1). If a bullet is fired from Pistol P610, CPU 211 (FIG. 1) of Device A proceeds to the next step (S2). If the 1st bullet stored in Bullet Case BC610 is fired from Pistol P610, CPU 211 (FIG. 1) of Device A proceeds to the next step (S3). CPU 211 (FIG. 1) of Device A sends the 1st bullet fired notice to Host H in a wireless fashion (S4). Here, the 1st bullet fired notice indicates that the 1st bullet is fired from Pistol P610. Host H receives the 1st bullet fired notice from Device A (S5). Host H retrieves the current time data from Current Time Data Storage Area H610*b*3 (S6). Host H produces the 1st bullet fired time data by referring to the current time data retrieved in the previous step (S7). Host H retrieves the current location data from Current Location Data Storage Area H610*b*4 (S8). Host H produces the 1st bullet fired location data by referring to the current location data retrieved in the previous step (S9). Host H produces the 1st bullet fired log data by utilizing the 1st bullet fired time data produced in S7 and the 1st bullet fired location data produced in the previous step (S10). Host H stores the 1st bullet fired log data produced in the previous step in 1st Bullet Fired Log Data Storage Area H610*b*5*a* (S11). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) 1st Bullet Fired Log Data Displaying Software H610*c*13 of Host H and 1st Bullet Fired Log Data Displaying Software 206A610*c*13 of Device A, which

display(s) the 1st bullet fired log data. In this embodiment, the user of Device A inputs, by utilizing Input Device 210 (FIG. 1) or via voice recognition system, the 1st bullet fired log data displaying command (S1). Here, the 1st bullet fired log data displaying command is the command to display the 1st bullet fired log data. CPU 211 (FIG. 1) of Device A sends the 1st bullet fired log data displaying command to Host H in a wireless fashion (S2). Host H receives the 1st bullet fired log data displaying command from Device A (S3). Host H retrieves the 1st bullet fired log data from 1st Bullet Fired Log Data Storage Area H610b5a (S4). Host H retrieves the 1st bullet fired time data from the 1st bullet fired log data retrieved in the previous step and sends the data to Device A (S5). CPU 211 (FIG. 1) of Device A receives the 1st bullet fired time data from Host H in a wireless fashion and displays the data on LCD 201 (FIG. 1) of Device A (S6). Host H retrieves the 1st bullet fired location data from the 1st bullet fired log data retrieved in S4 and sends the data to Device A (S7). CPU 211 (FIG. 1) of Device A receives the 1st bullet fired location data from Host H in a wireless fashion (S8). CPU 211 (FIG. 1) of Device A displays the 1st bullet fired location data received in the previous step on LCD 201 (FIG. 1) of Device A (S9). Host H retrieves the map data from Map Data Storage Area H610b6 and sends the data to Device A (S10). CPU 211 (FIG. 1) of Device A receives the map data from Host H in a wireless fashion and displays the data on LCD 201 (FIG. 1) of Device A (S11). Host H retrieves the 1st icon data from 1st Icon Data Storage Area H610b7a and sends the data to Device A (S12). CPU 211 (FIG. 1) of Device A receives the 1st icon data from Host H in a wireless fashion (S13). CPU 211 (FIG. 1) of Device A displays the 1st icon data received in the previous step at the location corresponding to the 1st bullet fired location data received in S8 on the map data displayed in S11 (S14).

This paragraph illustrate(s) 1st Bullet Fired Log Data Sharing Software H610c14 of Host H and 1st Bullet Fired Log Data Sharing Software 206B610c14 of Device B, which share(s) the 1st bullet fired log data. In this embodiment, Host H retrieves the 1st bullet fired log data from 1st Bullet Fired Log Data Storage Area H610b5a and sends the data to Device B (S1). CPU 211 (FIG. 1) of Device B receives the 1st bullet fired log data from Host H in a wireless fashion and stores the data in 1st Bullet Fired Log Data Storage Area 206B610b5a (S2). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) 1st Bullet Fired Log Data Displaying Software 206B610c13 of Device B, which display(s) the 1st bullet fired log data. In this embodiment, the user of Device B inputs, by utilizing Input Device 210 (FIG. 1) or via voice recognition system, the 1st bullet fired log data displaying command (S1). Here, the 1st bullet fired log data displaying command is the command to display the 1st bullet fired log data. CPU 211 (FIG. 1) of Device B retrieves the 1st bullet fired log data from 1st Bullet Fired Log Data Storage Area 206B610b5a (S2). CPU 211 (FIG. 1) of Device B retrieves the 1st bullet fired time data from the 1st bullet fired log data retrieved in the previous step (S3). CPU 211 (FIG. 1) of Device B displays the 1st bullet fired time data retrieved in the previous step on LCD 201 (FIG. 1) of Device B (S4). CPU 211 (FIG. 1) of Device B retrieves the 1st bullet fired location data from the 1st bullet fired log data retrieved in S2 (S5). CPU 211 (FIG. 1) of Device B displays the 1st bullet fired location data retrieved in the previous step on LCD 201 (FIG. 1) of Device B (S6). CPU 211 (FIG. 1) of Device B retrieves the map data from Map Data Storage Area 206B610b6 (S7). CPU 211 (FIG. 1) of Device B displays the map data retrieved in the previous step on LCD 201 (FIG. 1) of Device B (S8). CPU 211 (FIG. 1) of Device B retrieves the 1st icon data from

1st Icon Data Storage Area 206B610b7a (S9). CPU 211 (FIG. 1) of Device B displays the 1st icon data retrieved in the previous step at the location corresponding to the 1st bullet fired location data retrieved in S5 on the map data displayed in S8 (S10).

This paragraph illustrate(s) 2nd Bullet Fired Log Data Producing Software H610c15 of Host H and 2nd Bullet Fired Log Data Producing Software 206A610c15 of Device A, which produce(s) the 2nd bullet fired log data. In this embodiment, CPU 211 (FIG. 1) of Device A checks the status of Pistol P610 (S1). If a bullet is fired from Pistol P610, CPU 211 (FIG. 1) of Device A proceeds to the next step (S2). If the 2nd bullet stored in Bullet Case BC610 is fired from Pistol P610, CPU 211 (FIG. 1) of Device A proceeds to the next step (S3). CPU 211 (FIG. 1) of Device A sends the 2nd bullet fired notice to Host H in a wireless fashion (S4). Here, the 2nd bullet fired notice indicates that the 2nd bullet is fired from Pistol P610. Host H receives the 2nd bullet fired notice from Device A (S5). Host H retrieves the current time data from Current Time Data Storage Area H610b3 (S6). Host H produces the 2nd bullet fired time data by referring to the current time data retrieved in the previous step (S7). Host H retrieves the current location data from Current Location Data Storage Area H610b4 (S8). Host H produces the 2nd bullet fired location data by referring to the current location data retrieved in the previous step (S9). Host H produces the 2nd bullet fired log data by utilizing the 2nd bullet fired time data produced in S7 and the 2nd bullet fired location data produced in the previous step (S10). Host H stores the 2nd bullet fired log data produced in the previous step in 2nd Bullet Fired Log Data Storage Area H610b5b (S11). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) 2nd Bullet Fired Log Data Displaying Software H610c16 of Host H and 2nd Bullet Fired Log Data Displaying Software 206A610c16 of Device A, which display(s) the 2nd bullet fired log data. In this embodiment, the user of Device A inputs, by utilizing Input Device 210 (FIG. 1) or via voice recognition system, the 2nd bullet fired log data displaying command (S1). Here, the 2nd bullet fired log data displaying command is the command to display the 2nd bullet fired log data. CPU 211 (FIG. 1) of Device A sends the 2nd bullet fired log data displaying command to Host H in a wireless fashion (S2). Host H receives the 2nd bullet fired log data displaying command from Device A (S3). Host H retrieves the 2nd bullet fired log data from 2nd Bullet Fired Log Data Storage Area H610b5b (S4). Host H retrieves the 2nd bullet fired time data from the 2nd bullet fired log data retrieved in the previous step and sends the data to Device A (S5). CPU 211 (FIG. 1) of Device A receives the 2nd bullet fired time data from Host H in a wireless fashion and displays the data on LCD 201 (FIG. 1) of Device A (S6). Host H retrieves the 2nd bullet fired location data from the 2nd bullet fired log data retrieved in S4 and sends the data to Device A (S7). CPU 211 (FIG. 1) of Device A receives the 2nd bullet fired location data from Host H in a wireless fashion (S8). CPU 211 (FIG. 1) of Device A displays the 2nd bullet fired location data received in the previous step on LCD 201 (FIG. 1) of Device A (S9). Host H retrieves the map data from Map Data Storage Area H610b6 and sends the data to Device A (S10). CPU 211 (FIG. 1) of Device A receives the map data from Host H in a wireless fashion and displays the data on LCD 201 (FIG. 1) of Device A (S11). Host H retrieves the 2nd icon data from 2nd Icon Data Storage Area H610b7b and sends the data to Device A (S12). CPU 211 (FIG. 1) of Device A receives the 2nd icon data from Host H in a wireless fashion (S13). CPU 211 (FIG. 1) of Device A displays the 2nd icon data received in the previous step at the location correspond-

ing to the 2nd bullet fired location data received in S8 on the map data displayed in S11 (S14).

This paragraph illustrate(s) 2nd Bullet Fired Log Data Sharing Software H610c17 of Host H and 2nd Bullet Fired Log Data Sharing Software 206B610c17 of Device B, which share(s) the 2nd bullet fired log data. In this embodiment, Host H retrieves the 2nd bullet fired log data from 2nd Bullet Fired Log Data Storage Area H610b5b and sends the data to Device B (S1). CPU 211 (FIG. 1) of Device B receives the 2nd bullet fired log data from Host H in a wireless fashion and stores the data in 2nd Bullet Fired Log Data Storage Area 206B610b5b (S2). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) 2nd Bullet Fired Log Data Displaying Software 206B610c16 of Device B, which display(s) the 2nd bullet fired log data. In this embodiment, the user of Device B inputs, by utilizing Input Device 210 (FIG. 1) or via voice recognition system, the 2nd bullet fired log data displaying command (S1). Here, the 2nd bullet fired log data displaying command is the command to display the 2nd bullet fired log data. CPU 211 (FIG. 1) of Device B retrieves the 2nd bullet fired log data from 2nd Bullet Fired Log Data Storage Area 206B610b5b (S2). CPU 211 (FIG. 1) of Device B retrieves the 2nd bullet fired time data from the 2nd bullet fired log data retrieved in the previous step (S3). CPU 211 (FIG. 1) of Device B displays the 2nd bullet fired time data retrieved in the previous step on LCD 201 (FIG. 1) of Device B (S4). CPU 211 (FIG. 1) of Device B retrieves the 2nd bullet fired location data from the 2nd bullet fired log data retrieved in S2 (S5). CPU 211 (FIG. 1) of Device B displays the 2nd bullet fired location data retrieved in the previous step on LCD 201 (FIG. 1) of Device B (S6). CPU 211 (FIG. 1) of Device B retrieves the map data from Map Data Storage Area 206B610b6 (S7). CPU 211 (FIG. 1) of Device B displays the map data retrieved in the previous step on LCD 201 (FIG. 1) of Device B (S8). CPU 211 (FIG. 1) of Device B retrieves the 2nd icon data from 2nd Icon Data Storage Area 206B610b7b (S9). CPU 211 (FIG. 1) of Device B displays the 2nd icon data retrieved in the previous step at the location corresponding to the 2nd bullet fired location data retrieved in S5 on the map data displayed in S8 (S10).

The following paragraphs illustrate another embodiment wherein Device A plays the major role in implementing the present function.

This paragraph illustrate(s) Fired Bullet Number Data Producing Software 206A610c1 of Device A, which produce(s) the fired bullet number data. In this embodiment, If a bullet is fired from Pistol P610, CPU 211 (FIG. 1) of Device A proceeds to the next step (S1). CPU 211 (FIG. 1) of Device A retrieves the fired bullet number data from Fired Bullet Number Data Storage Area 206A610b1 (S2). CPU 211 (FIG. 1) of Device A updates the fired bullet number data retrieved in the previous step by adding one value thereto (S3). CPU 211 (FIG. 1) of Device A stores the fired bullet number data updated in the previous step in Fired Bullet Number Data Storage Area 206A610b1 (S4). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Fired Bullet Number Data Displaying Software 206A610c2 of Device A, which display(s) the fired bullet number data. In this embodiment, CPU 211 (FIG. 1) of Device A retrieves the fired bullet number data from Fired Bullet Number Data Storage Area 206A610b1 (S1). CPU 211 (FIG. 1) of Device A displays the fired bullet number data retrieved in the previous step on LCD 201 (FIG. 1) of Device A (S2). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Fired Bullet Number Data Sharing Software 206A610c3 of Device A and Fired Bullet Number Data Sharing Software 206B610c3 of Device B, which share(s) the fired bullet number data. In this embodiment, CPU 211 (FIG. 1) of Device A retrieves the fired bullet number data from Fired Bullet Number Data Storage Area 206A610b1 and sends the data to Device B in a wireless fashion (S1). CPU 211 (FIG. 1) of Device B receives the fired bullet number data from Device A in a wireless fashion and stores the data in Fired Bullet Number Data Storage Area 206B610b1 (S2). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Fired Bullet Number Data Displaying Software 206B610c2 of Device B, which display(s) the fired bullet number data. In this embodiment, CPU 211 (FIG. 1) of Device B retrieves the fired bullet number data from Fired Bullet Number Data Storage Area 206B610b1 (S1). CPU 211 (FIG. 1) of Device B displays the fired bullet number data retrieved in the previous step on LCD 201 (FIG. 1) of Device B (S2). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Remaining Bullet Number Data Producing Software 206A610c4 of Device A, which produce(s) the remaining bullet number data. In this embodiment, If a bullet is fired from Pistol P610, CPU 211 (FIG. 1) of Device A proceeds to the next step (S1). CPU 211 (FIG. 1) of Device A retrieves the remaining bullet number data from Remaining Bullet Number Data Storage Area 206A610b2 (S2). CPU 211 (FIG. 1) of Device A updates the remaining bullet number data retrieved in the previous step by subtracting one value therefrom (S3). CPU 211 (FIG. 1) of Device A stores the remaining bullet number data updated in the previous step in Remaining Bullet Number Data Storage Area 206A610b2 (S4). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Remaining Bullet Number Data Displaying Software 206A610c5 of Device A, which display(s) the remaining bullet number data. In this embodiment, CPU 211 (FIG. 1) of Device A retrieves the remaining bullet number data from Remaining Bullet Number Data Storage Area 206A610b2 (S1). CPU 211 (FIG. 1) of Device A displays the remaining bullet number data retrieved in the previous step on LCD 201 (FIG. 1) of Device A (S2). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Remaining Bullet Number Data Sharing Software 206A610c6 of Device A and Remaining Bullet Number Data Sharing Software 206B610c6 of Device B, which share(s) the remaining bullet number data. In this embodiment, CPU 211 (FIG. 1) of Device A retrieves the remaining bullet number data from Remaining Bullet Number Data Storage Area 206A610b2 and sends the data to Device B in a wireless fashion (S1). CPU 211 (FIG. 1) of Device B receives the remaining bullet number data from Device A in a wireless fashion and stores the data in Remaining Bullet Number Data Storage Area 206B610b2 (S2). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Remaining Bullet Number Data Displaying Software 206B610c5 of Device B, which display(s) the remaining bullet number data. In this embodiment, CPU 211 (FIG. 1) of Device B retrieves the remaining bullet number data from Remaining Bullet Number Data Storage Area 206B610b2 (S1). CPU 211 (FIG. 1) of Device B displays the remaining bullet number data retrieved in the previous step on LCD 201 (FIG. 1) of Device B (S2). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Current Time Data Producing Software 206A610c7 of Device A, which produce(s) the cur-

rent time data. In this embodiment, CPU 211 (FIG. 1) of Device A identifies the current time and date (S1). CPU 211 (FIG. 1) of Device A produces the current time data by referring to the current time and date identified in the previous step (S2). CPU 211 (FIG. 1) of Device A stores the current time data produced in the previous step in Current Time Data Storage Area 206A610b3 (S3). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Current Time Data Displaying Software 206A610c8 of Device A, which display(s) the current time data. In this embodiment, CPU 211 (FIG. 1) of Device A retrieves the current time data from Current Time Data Storage Area 206A610b3 (S1). CPU 211 (FIG. 1) of Device A displays the current time data retrieved in the previous step on LCD 201 (FIG. 1) of Device A (S2). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Current Location Data Producing Software 206A610c9 of Device A, which produce(s) the current location data. In this embodiment, CPU 211 (FIG. 1) of Device A identifies the current location of Device A (S1). CPU 211 (FIG. 1) of Device A produces the current location data by referring to the current location identified in the previous step (S2). CPU 211 (FIG. 1) of Device A stores the current location data produced in the previous step in Current Location Data Storage Area 206A610b4 (S3). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Current Location Data Displaying Software 206A610c10 of Device A, which display(s) the current location data. In this embodiment, CPU 211 (FIG. 1) of Device A retrieves the map data from Map Data Storage Area 206A610b6 (S1). CPU 211 (FIG. 1) of Device A displays the map data retrieved in the previous step on LCD 201 (FIG. 1) of Device A (S2). CPU 211 (FIG. 1) of Device A retrieves the current location icon data from Current Location Icon Data Storage Area 206A610b7c (S3). CPU 211 (FIG. 1) of Device A retrieves the current location data from Current Location Data Storage Area 206A610b4 (S4). CPU 211 (FIG. 1) of Device A displays the current location icon data retrieved in S3 at the location corresponding to the current location data retrieved in the previous step on the map data displayed in S2 (S5). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Current Location Data Sharing Software 206A610c11 of Device A and Current Location Data Sharing Software 206B610c11 of Device B, which share(s) the current location data. In this embodiment, CPU 211 (FIG. 1) of Device A retrieves the current location data from Current Location Data Storage Area 206A610b4 and sends the data to Device B in a wireless fashion (S1). CPU 211 (FIG. 1) of Device B receives the current location data from Device A in a wireless fashion and stores the data in Current Location Data Storage Area 206B610b4 (S2). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Current Location Data Displaying Software 206B610c10 of Device B, which display(s) the current location data. In this embodiment, CPU 211 (FIG. 1) of Device B retrieves the map data from Map Data Storage Area 206B610b6 (S1). CPU 211 (FIG. 1) of Device B displays the map data retrieved in the previous step on LCD 201 (FIG. 1) of Device B (S2). CPU 211 (FIG. 1) of Device B retrieves the current location icon data from Current Location Icon Data Storage Area 206B610b7c (S3). CPU 211 (FIG. 1) of Device B retrieves the current location data from Current Location Data Storage Area 206B610b4 (S4). CPU 211 (FIG. 1) of Device B displays the current location icon data retrieved in S3 at the location corresponding to the current

location data retrieved in the previous step on the map data displayed in S2 (S5). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) 1st Bullet Fired Log Data Producing Software 206A610c12 of Device A, which produce(s) the 1st bullet fired log data. In this embodiment, CPU 211 (FIG. 1) of Device A checks the status of Pistol P610 (S1). If a bullet is fired from Pistol P610, CPU 211 (FIG. 1) of Device A proceeds to the next step (S2). If the 1st bullet stored in Bullet Case BC610 is fired from Pistol P610, CPU 211 (FIG. 1) of Device A proceeds to the next step (S3). CPU 211 (FIG. 1) of Device A retrieves the current time data from Current Time Data Storage Area 206A610b3 (S4). CPU 211 (FIG. 1) of Device A produces the 1st bullet fired time data by referring to the current time data retrieved in the previous step (S5). CPU 211 (FIG. 1) of Device A retrieves the current location data from Current Location Data Storage Area 206A610b4 (S6). CPU 211 (FIG. 1) of Device A produces the 1st bullet fired location data by referring to the current location data retrieved in the previous step (S7). CPU 211 (FIG. 1) of Device A produces the 1st bullet fired log data by utilizing the 1st bullet fired time data produced in S5 and the 1st bullet fired location data produced in the previous step (S8). CPU 211 (FIG. 1) of Device A stores the 1st bullet fired log data produced in the previous step in 1st Bullet Fired Log Data Storage Area 206A610b5a (S9). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) 1st Bullet Fired Log Data Displaying Software 206A610c13 of Device A, which display(s) the 1st bullet fired log data. In this embodiment, the user of Device A inputs, by utilizing Input Device 210 (FIG. 1) or via voice recognition system, the 1st bullet fired log data displaying command (S1). Here, the 1st bullet fired log data displaying command is the command to display the 1st bullet fired log data. CPU 211 (FIG. 1) of Device A retrieves the 1st bullet fired log data from 1st Bullet Fired Log Data Storage Area 206A610b5a (S2). CPU 211 (FIG. 1) of Device A retrieves the 1st bullet fired time data from the 1st bullet fired log data retrieved in the previous step (S3). CPU 211 (FIG. 1) of Device A displays the 1st bullet fired time data retrieved in the previous step on LCD 201 (FIG. 1) of Device A (S4). CPU 211 (FIG. 1) of Device A retrieves the 1st bullet fired location data from the 1st bullet fired log data retrieved in S2 (S5). CPU 211 (FIG. 1) of Device A displays the 1st bullet fired location data retrieved in the previous step on LCD 201 (FIG. 1) of Device A (S6). CPU 211 (FIG. 1) of Device A retrieves the map data from Map Data Storage Area 206A610b6 (S7). CPU 211 (FIG. 1) of Device A displays the map data retrieved in the previous step on LCD 201 (FIG. 1) of Device A (S8). CPU 211 (FIG. 1) of Device A retrieves the 1st icon data from 1st Icon Data Storage Area 206A610b7a (S9). CPU 211 (FIG. 1) of Device A displays the 1st icon data retrieved in the previous step at the location corresponding to the 1st bullet fired location data retrieved in S5 on the map data displayed in S8 (S10).

This paragraph illustrate(s) 1st Bullet Fired Log Data Sharing Software 206A610c14 of Device A and 1st Bullet Fired Log Data Sharing Software 206B610c14 of Device B, which share(s) the 1st bullet fired log data. In this embodiment, CPU 211 (FIG. 1) of Device A retrieves the 1st bullet fired log data from 1st Bullet Fired Log Data Storage Area 206A610b5a and sends the data to Device B in a wireless fashion (S1). CPU 211 (FIG. 1) of Device B receives the 1st bullet fired log data from Device A in a wireless fashion and stores the data in 1st Bullet Fired Log Data Storage Area 206B610b5a (S2). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) 1st Bullet Fired Log Data Displaying Software **206B610***c***13** of Device B, which display(s) the 1st bullet fired log data. In this embodiment, the user of Device B inputs, by utilizing Input Device **210** (FIG. **1**) or via voice recognition system, the 1st bullet fired log data displaying command (S1). Here, the 1st bullet fired log data displaying command is the command to display the 1st bullet fired log data. CPU **211** (FIG. **1**) of Device B retrieves the 1st bullet fired log data from 1st Bullet Fired Log Data Storage Area **206B610***b***5***a* (S2). CPU **211** (FIG. **1**) of Device B retrieves the 1st bullet fired time data from the 1st bullet fired log data retrieved in the previous step (S3). CPU **211** (FIG. **1**) of Device B displays the 1st bullet fired time data retrieved in the previous step on LCD **201** (FIG. **1**) of Device B (S4). CPU **211** (FIG. **1**) of Device B retrieves the 1st bullet fired location data from the 1st bullet fired log data retrieved in S2 (S5). CPU **211** (FIG. **1**) of Device B displays the 1st bullet fired location data retrieved in the previous step on LCD **201** (FIG. **1**) of Device B (S6). CPU **211** (FIG. **1**) of Device B retrieves the map data from Map Data Storage Area **206B610***b***6** (S7). CPU **211** (FIG. **1**) of Device B displays the map data retrieved in the previous step on LCD **201** (FIG. **1**) of Device B (S8). CPU **211** (FIG. **1**) of Device B retrieves the 1st icon data from 1st Icon Data Storage Area **206B610***b***7***a* (S9). CPU **211** (FIG. **1**) of Device B displays the 1st icon data retrieved in the previous step at the location corresponding to the 1st bullet fired location data retrieved in S5 on the map data displayed in S8 (S10).

This paragraph illustrate(s) 2nd Bullet Fired Log Data Producing Software **206A610***c***15** of Device A, which produce(s) the 2nd bullet fired log data. In this embodiment, CPU **211** (FIG. **1**) of Device A checks the status of Pistol P**610** (S1). If a bullet is fired from Pistol P**610**, CPU **211** (FIG. **1**) of Device A proceeds to the next step (S2). If the 2nd bullet stored in Bullet Case BC**610** is fired from Pistol P**610**, CPU **211** (FIG. **1**) of Device A proceeds to the next step (S3). CPU **211** (FIG. **1**) of Device A retrieves the current time data from Current Time Data Storage Area **206A610***b***3** (S4). CPU **211** (FIG. **1**) of Device A produces the 2nd bullet fired time data by referring to the current time data retrieved in the previous step (S5). CPU **211** (FIG. **1**) of Device A retrieves the current location data from Current Location Data Storage Area **206A610***b***4** (S6). CPU **211** (FIG. **1**) of Device A produces the 2nd bullet fired location data by referring to the current location data retrieved in the previous step (S7). CPU **211** (FIG. **1**) of Device A produces the 2nd bullet fired log data by utilizing the 2nd bullet fired time data produced in S5 and the 2nd bullet fired location data produced in the previous step (S8). CPU **211** (FIG. **1**) of Device A stores the 2nd bullet fired log data produced in the previous step in 2nd Bullet Fired Log Data Storage Area **206A610***b***5***b* (S9). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) 2nd Bullet Fired Log Data Displaying Software **206A610***c***16** of Device A, which display(s) the 2nd bullet fired log data. In this embodiment, the user of Device A inputs, by utilizing Input Device **210** (FIG. **1**) or via voice recognition system, the 2nd bullet fired log data displaying command (S1). Here, the 2nd bullet fired log data displaying command is the command to display the 2nd bullet fired log data. CPU **211** (FIG. **1**) of Device A retrieves the 2nd bullet fired log data from 2nd Bullet Fired Log Data Storage Area **206A610***b***5***b* (S2). CPU **211** (FIG. **1**) of Device A retrieves the 2nd bullet fired time data from the 2nd bullet fired log data retrieved in the previous step (S3). CPU **211** (FIG. **1**) of Device A displays the 2nd bullet fired time data retrieved in the previous step on LCD **201** (FIG. **1**) of Device A (S4). CPU **211** (FIG. **1**) of Device A retrieves the 2nd bullet

fired location data from the 2nd bullet fired log data retrieved in S2 (S5). CPU **211** (FIG. **1**) of Device A displays the 2nd bullet fired location data retrieved in the previous step on LCD **201** (FIG. **1**) of Device A (S6). CPU **211** (FIG. **1**) of Device A retrieves the map data from Map Data Storage Area **206A610***b***6** (S7). CPU **211** (FIG. **1**) of Device A displays the map data retrieved in the previous step on LCD **201** (FIG. **1**) of Device A (S8). CPU **211** (FIG. **1**) of Device A retrieves the 2nd icon data from 2nd Icon Data Storage Area **206A610***b***7***b* (S9). CPU **211** (FIG. **1**) of Device A displays the 2nd icon data retrieved in the previous step at the location corresponding to the 2nd bullet fired location data retrieved in S5 on the map data displayed in S8 (S10).

This paragraph illustrate(s) 2nd Bullet Fired Log Data Sharing Software **206A610***c***17** of Device A and 2nd Bullet Fired Log Data Sharing Software **206B610***c***17** of Device B, which share(s) the 2nd bullet fired log data. In this embodiment, CPU **211** (FIG. **1**) of Device A retrieves the 2nd bullet fired log data from 2nd Bullet Fired Log Data Storage Area **206A610***b***5***b* and sends the data to Device B in a wireless fashion (S1). CPU **211** (FIG. **1**) of Device B receives the 2nd bullet fired log data from Device A in a wireless fashion and stores the data in 2nd Bullet Fired Log Data Storage Area **206B610***b***5***b* (S2). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) 2nd Bullet Fired Log Data Displaying Software **206B610***c***16** of Device B, which display(s) the 2nd bullet fired log data. In this embodiment, the user of Device B inputs, by utilizing Input Device **210** (FIG. **1**) or via voice recognition system, the 2nd bullet fired log data displaying command (S1). Here, the 2nd bullet fired log data displaying command is the command to display the 2nd bullet fired log data. CPU **211** (FIG. **1**) of Device B retrieves the 2nd bullet fired log data from 2nd Bullet Fired Log Data Storage Area **206B610***b***5***b* (S2). CPU **211** (FIG. **1**) of Device B retrieves the 2nd bullet fired time data from the 2nd bullet fired log data retrieved in the previous step (S3). CPU **211** (FIG. **1**) of Device B displays the 2nd bullet fired time data retrieved in the previous step on LCD **201** (FIG. **1**) of Device B (S4). CPU **211** (FIG. **1**) of Device B retrieves the 2nd bullet fired location data from the 2nd bullet fired log data retrieved in S2 (S5). CPU **211** (FIG. **1**) of Device B displays the 2nd bullet fired location data retrieved in the previous step on LCD **201** (FIG. **1**) of Device B (S6). CPU **211** (FIG. **1**) of Device B retrieves the map data from Map Data Storage Area **206B610***b***6** (S7). CPU **211** (FIG. **1**) of Device B displays the map data retrieved in the previous step on LCD **201** (FIG. **1**) of Device B (S8). CPU **211** (FIG. **1**) of Device B retrieves the 2nd icon data from 2nd Icon Data Storage Area **206B610***b***7***b* (S9). CPU **211** (FIG. **1**) of Device B displays the 2nd icon data retrieved in the previous step at the location corresponding to the 2nd bullet fired location data retrieved in S5 on the map data displayed in S8 (S10).

<<Oxygen Tank Function>>

The following paragraphs illustrate the oxygen tank function, wherein Device A is included in an oxygen tank, the oxygen tank includes an oxygen bottle, the remaining oxygen data which indicates the amount of oxygen remaining in the oxygen bottle, the oxygen flow data which indicates the level of the current flow of oxygen from the oxygen bottle, and/or the remaining oxygen time data which indicates the remaining time to utilize the oxygen stored in the oxygen bottle are displayed on the display of Device A, and the oxygen alert message data is displayed on the display of Device A when the amount of oxygen remaining in the oxygen bottle is below a certain level. Further, the remaining oxygen data, the oxygen flow data, and/or the remaining oxygen time data are

displayed on the display of Device B, and the oxygen alert message data is displayed on the display of Device B when the amount of oxygen remaining in the oxygen bottle is below a certain level.

This paragraph illustrates the major elements utilized to implement the present function. In this embodiment, Host H is connected to Network NT (e.g., the Internet). Device A, a Communication Device 200, is connected to Network NT (e.g., the Internet) in a wireless fashion. Device B, another Communication Device 200, is connected to Network NT (e.g., the Internet) in a wireless fashion. Host H, Device A, and Device B are capable to communicate with each other via Network NT (e.g., the Internet) to implement the present function. Device A and Device B are also capable to communicate with each other directly in a wireless fashion to implement the present function.

This paragraph illustrates the major elements of Oxygen Tank OT615. In this embodiment, Oxygen Tank OT615 includes Oxygen Flow Controller OFC615, Oxygen Monitoring Sensor OMS615, Oxygen Bottle OB615, and Device A. Oxygen Tank OT615 is a tank which provides oxygen (e.g., scuba tank). Oxygen is stored in Oxygen Bottle OB615 and provided therefrom. Oxygen Flow Controller OFC615 controls the flow of oxygen from Oxygen Bottle OB615. Oxygen Monitoring Sensor OMS615 monitors the amount of oxygen remaining in Oxygen Bottle OB615. Oxygen Flow Controller OFC615, Oxygen Monitoring Sensor OMS615, and Oxygen Bottle OB615 are connect to Device A.

This paragraph illustrates the storage area included in Host H. In this embodiment, Host H includes Oxygen Tank Information Storage Area H615a of which the data and the software program(s) stored therein are described hereinafter.

This paragraph illustrates the storage area(s) included in Oxygen Tank Information Storage Area H615a. In this embodiment, Oxygen Tank Information Storage Area H615a includes Oxygen Tank Data Storage Area H615b and Oxygen Tank Software Storage Area H615c. Oxygen Tank Data Storage Area H615b stores the data necessary to implement the present function on the side of Host H, such as the one(s) described hereinafter. Oxygen Tank Software Storage Area H615c stores the software program(s) necessary to implement the present function on the side of Host H, such as the one(s) described hereinafter.

This paragraph illustrates the storage area(s) included in Oxygen Tank Data Storage Area H615b. In this embodiment, Oxygen Tank Data Storage Area H615b includes Remaining Oxygen Data Storage Area H615b1, Oxygen Flow Data Storage Area H615b2, Remaining Oxygen Time Data Storage Area H615b3, Oxygen Alert Message Data Storage Area H615b4, and Work Area H615b5. Remaining Oxygen Data Storage Area H615b1 stores the remaining oxygen data which indicates the amount of oxygen remaining in Oxygen Bottle OB615. Oxygen Flow Data Storage Area H615b2 stores the oxygen flow data which indicates the level of the current flow of oxygen from Oxygen Bottle OB615. Remaining Oxygen Time Data Storage Area H615b3 stores the remaining oxygen time data which indicates the remaining time to utilize the oxygen stored in Oxygen Bottle OB615. Oxygen Alert Message Data Storage Area H615b4 stores the oxygen alert message data which is the message indicating that the amount of oxygen remaining in Oxygen Bottle OB615 is low. Work Area H615b5 is utilized as a work area to perform calculation and temporarily store data.

This paragraph illustrates the software program(s) stored in Oxygen Tank Software Storage Area H615c. In this embodiment, Oxygen Tank Software Storage Area H615c stores Remaining Oxygen Data Producing Software H615c1,

Remaining Oxygen Data Sharing Software H615c2, Remaining Oxygen Data Displaying Software H615c3, Oxygen Flow Data Producing Software H615c5, Oxygen Flow Data Sharing Software H615c6, Oxygen Flow Data Displaying Software H615c7, Remaining Oxygen Time Data Producing Software H615c8, Remaining Oxygen Time Data Displaying Software H615c9, and Oxygen Alert Message Data Displaying Software H615c10. Remaining Oxygen Data Producing Software H615c1 is the software program described hereinafter. Remaining Oxygen Data Sharing Software H615c2 is the software program described hereinafter. Remaining Oxygen Data Displaying Software H615c3 is the software program described hereinafter. Oxygen Flow Data Producing Software H615c5 is the software program described hereinafter. Oxygen Flow Data Sharing Software H615c6 is the software program described hereinafter. Oxygen Flow Data Displaying Software H615c7 is the software program described hereinafter. Remaining Oxygen Time Data Producing Software H615c8 is the software program described hereinafter. Remaining Oxygen Time Data Displaying Software H615c9 is the software program described hereinafter. Oxygen Alert Message Data Displaying Software H615c10 is the software program described hereinafter.

This paragraph illustrates the storage area included in RAM 206 (FIG. 1) of Device A. In this embodiment, RAM 206 includes Oxygen Tank Information Storage Area 206A615a of which the data and the software program(s) stored therein are described hereinafter.

The data and/or the software program(s) necessary to implement the present function may be downloaded from Host H to Device A.

This paragraph illustrates the storage area(s) included in Oxygen Tank Information Storage Area 206A615a. In this embodiment, Oxygen Tank Information Storage Area 206A615a includes Oxygen Tank Data Storage Area 206A615b and Oxygen Tank Software Storage Area 206A615c. Oxygen Tank Data Storage Area 206A615b stores the data necessary to implement the present function on the side of Device A, such as the one(s) described hereinafter. Oxygen Tank Software Storage Area 206A615c stores the software program(s) necessary to implement the present function on the side of Device A, such as the one(s) described hereinafter.

This paragraph illustrates the storage area(s) included in Oxygen Tank Data Storage Area 206A615b. In this embodiment, Oxygen Tank Data Storage Area 206A615b includes Remaining Oxygen Data Storage Area 206A615b1, Oxygen Flow Data Storage Area 206A615b2, Remaining Oxygen Time Data Storage Area 206A615b3, Oxygen Alert Message Data Storage Area 206A615b4, and Work Area 206A615b5. Remaining Oxygen Data Storage Area 206A615b1 stores the remaining oxygen data which indicates the amount of oxygen remaining in Oxygen Bottle OB615. Oxygen Flow Data Storage Area 206A615b2 stores the oxygen flow data which indicates the level of the current flow of oxygen from Oxygen Bottle OB615. Remaining Oxygen Time Data Storage Area 206A615b3 stores the remaining oxygen time data which indicates the remaining time to utilize the oxygen stored in Oxygen Bottle OB615. Oxygen Alert Message Data Storage Area 206A615b4 stores the oxygen alert message data which is the message indicating that the amount of oxygen remaining in Oxygen Bottle OB615 is low. Work Area 206A615b5 is utilized as a work area to perform calculation and temporarily store data.

This paragraph illustrates the software program(s) stored in Oxygen Tank Software Storage Area 206A615c. In this embodiment, Oxygen Tank Software Storage Area 206A615c

stores Remaining Oxygen Data Producing Software 206A615*c*1, Remaining Oxygen Data Sharing Software 206A615*c*2, Remaining Oxygen Data Displaying Software 206A615*c*3, Oxygen Flow Controlling Software 206A615*c*4, Oxygen Flow Data Producing Software 206A615*c*5, Oxygen Flow Data Sharing Software 206A615*c*6, Oxygen Flow Data Displaying Software 206A615*c*7, Remaining Oxygen Time Data Producing Software 206A615*c*8, Remaining Oxygen Time Data Displaying Software 206A615*c*9, and Oxygen Alert Message Data Displaying Software 206A615*c*10. Remaining Oxygen Data Producing Software 206A615*c*1 is the software program described hereinafter. Remaining Oxygen Data Sharing Software 206A615*c*2 is the software program described hereinafter. Remaining Oxygen Data Displaying Software 206A615*c*3 is the software program described hereinafter. Oxygen Flow Controlling Software 206A615*c*4 is the software program described hereinafter. Oxygen Flow Data Producing Software 206A615*c*5 is the software program described hereinafter. Oxygen Flow Data Sharing Software 206A615*c*6 is the software program described hereinafter. Oxygen Flow Data Displaying Software 206A615*c*7 is the software program described hereinafter. Remaining Oxygen Time Data Producing Software 206A615*c*8 is the software program described hereinafter. Remaining Oxygen Time Data Displaying Software 206A615*c*9 is the software program described hereinafter. Oxygen Alert Message Data Displaying Software 206A615*c*10 is the software program described hereinafter.

This paragraph illustrates the storage area included in RAM 206 (FIG. 1) of Device B. In this embodiment, RAM 206 includes Oxygen Tank Information Storage Area 206B615*a* of which the data and the software program(s) stored therein are described hereinafter.

The data and/or the software program(s) necessary to implement the present function may be downloaded from Host H to Device B.

This paragraph illustrates the storage area(s) included in Oxygen Tank Information Storage Area 206B615*a*. In this embodiment, Oxygen Tank Information Storage Area 206B615*a* includes Oxygen Tank Data Storage Area 206B615*b* and Oxygen Tank Software Storage Area 206B615*c*. Oxygen Tank Data Storage Area 206B615*b* stores the data necessary to implement the present function on the side of Device B, such as the one(s) described hereinafter. Oxygen Tank Software Storage Area 206B615*c* stores the software program(s) necessary to implement the present function on the side of Device B, such as the one(s) described hereinafter.

This paragraph illustrates the storage area(s) included in Oxygen Tank Data Storage Area 206B615*b*. In this embodiment, Oxygen Tank Data Storage Area 206B615*b* includes Remaining Oxygen Data Storage Area 206B615*b*1, Oxygen Flow Data Storage Area 206B615*b*2, Remaining Oxygen Time Data Storage Area 206B615*b*3, Oxygen Alert Message Data Storage Area 206B615*b*4, and Work Area 206B615*b*5. Remaining Oxygen Data Storage Area 206B615*b*1 stores the remaining oxygen data which indicates the amount of oxygen remaining in Oxygen Bottle OB615. Oxygen Flow Data Storage Area 206B615*b*2 stores the oxygen flow data which indicates the level of the current flow of oxygen from Oxygen Bottle OB615. Remaining Oxygen Time Data Storage Area 206B615*b*3 stores the remaining oxygen time data which indicates the remaining time to utilize the oxygen stored in Oxygen Bottle OB615. Oxygen Alert Message Data Storage Area 206B615*b*4 stores the oxygen alert message data which is the message indicating that the amount of oxygen remain-

ing in Oxygen Bottle OB615 is low. Work Area 206B615*b*5 is utilized as a work area to perform calculation and temporarily store data.

This paragraph illustrates the software program(s) stored in Oxygen Tank Software Storage Area 206B615*c*. In this embodiment, Oxygen Tank Software Storage Area 206B615*c* stores Remaining Oxygen Data Sharing Software 206B615*c*2, Remaining Oxygen Data Displaying Software 206B615*c*3, Oxygen Flow Data Sharing Software 206B615*c*6, Oxygen Flow Data Displaying Software 206B615*c*7, Remaining Oxygen Time Data Producing Software 206B615*c*8, Remaining Oxygen Time Data Displaying Software 206B615*c*9, and Oxygen Alert Message Data Displaying Software 206B615*c*10. Remaining Oxygen Data Sharing Software 206B615*c*2 is the software program described hereinafter. Remaining Oxygen Data Displaying Software 206B615*c*3 is the software program described hereinafter. Oxygen Flow Data Sharing Software 206B615*c*6 is the software program described hereinafter. Oxygen Flow Data Displaying Software 206B615*c*7 is the software program described hereinafter. Remaining Oxygen Time Data Producing Software 206B615*c*8 is the software program described hereinafter. Remaining Oxygen Time Data Displaying Software 206B615*c*9 is the software program described hereinafter. Oxygen Alert Message Data Displaying Software 206B615*c*10 is the software program described hereinafter.

This paragraph illustrate(s) Remaining Oxygen Data Producing Software H615*c*1 of Host H and Remaining Oxygen Data Producing Software 206A615*c*1 of Device A, which produce(s) the remaining oxygen data. In this embodiment, CPU 211 (FIG. 1) of Device A identifies the amount of oxygen remaining in Oxygen Bottle OB615 by utilizing Oxygen Monitoring Sensor OMS615 (S1). CPU 211 (FIG. 1) of Device A produces the remaining oxygen data by referring to the amount of oxygen identified in the previous step and sends the data to Host H in a wireless fashion (S2). Host H receives the remaining oxygen data from Device A and stores the data in Remaining Oxygen Data Storage Area H615*b*1 (S3). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Remaining Oxygen Data Sharing Software H615*c*2 of Host H and Remaining Oxygen Data Sharing Software 206B615*c*2 of Device B, which share(s) the remaining oxygen data. In this embodiment, Host H retrieves the remaining oxygen data from Remaining Oxygen Data Storage Area H615*b*1 and sends the data to Device B (S1). CPU 211 (FIG. 1) of Device B receives the remaining oxygen data from Host H in a wireless fashion and stores the data in Remaining Oxygen Data Storage Area 206B615*b*1 (S2). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Remaining Oxygen Data Displaying Software H615*c*3 of Host H and Remaining Oxygen Data Displaying Software 206A615*c*3 of Device A, which display(s) the remaining oxygen data. In this embodiment, Host H retrieves the remaining oxygen data from Remaining Oxygen Data Storage Area H615*b*1 and sends the data to Device A (S1). CPU 211 (FIG. 1) of Device A receives the remaining oxygen data from Host H in a wireless fashion and displays the data on LCD 201 (FIG. 1) of Device A (S2). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Remaining Oxygen Data Displaying Software 206B615*c*3 of Device B, which display(s) the remaining oxygen data. In this embodiment, CPU 211 (FIG. 1) of Device B retrieves the remaining oxygen data from Remaining Oxygen Data Storage Area 206B615*b*1 (S1). CPU 211 (FIG. 1) of Device B displays the remaining

oxygen data retrieved in the previous step on LCD **201** (FIG. **1**) of Device B (S2). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Oxygen Flow Controlling Software **206A615c4** of Device A, which control(s) the flow of oxygen from Oxygen Bottle OB**615**. In this embodiment, the user of Device A inputs, by utilizing Input Device **210** (FIG. **1**) or via voice recognition system, the oxygen flow controlling command (S1). Here, the oxygen flow controlling command is the command to control the flow of oxygen. The flow of oxygen may be increased or decreased in accordance with the foregoing command. CPU **211** (FIG. **1**) of Device A controls the flow of oxygen from Oxygen Bottle OB**615** in accordance with the oxygen flow controlling command input in the previous step via Oxygen Flow Controller OFC**615** (S2).

This paragraph illustrate(s) Oxygen Flow Data Producing Software H**615c5** of Host H and Oxygen Flow Data Producing Software **206A615c5** of Device A, which produce(s) the oxygen flow data. In this embodiment, CPU **211** (FIG. **1**) of Device A identifies the level of the current flow of the oxygen from Oxygen Bottle OB**615** by utilizing Oxygen Flow Controller OFC**615** (S1). CPU **211** (FIG. **1**) of Device A produces the oxygen flow data by referring to the level of the current flow of the oxygen identified in the previous step and sends the data to Host H in a wireless fashion (S2). Host H receives the oxygen flow data from Device A and stores the data in Oxygen Flow Data Storage Area H**615b2** (S3). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Oxygen Flow Data Sharing Software H**615c6** of Host H and Oxygen Flow Data Sharing Software **206B615c6** of Device B, which share(s) the oxygen flow data. In this embodiment, Host H retrieves the oxygen flow data from Oxygen Flow Data Storage Area H**615b2** and sends the data to Device B (S1). CPU **211** (FIG. **1**) of Device B receives the oxygen flow data from Host H in a wireless fashion and stores the data in Oxygen Flow Data Storage Area **206B615b2** (S2). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Oxygen Flow Data Displaying Software H**615c7** of Host H and Oxygen Flow Data Displaying Software **206A615c7** of Device A, which display(s) the oxygen flow data. In this embodiment, Host H retrieves the oxygen flow data from Oxygen Flow Data Storage Area H**615b2** and sends the data to Device A (S1). CPU **211** (FIG. **1**) of Device A receives the oxygen flow data from Host H in a wireless fashion and displays the data on LCD **201** (FIG. **1**) of Device A (S2). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Oxygen Flow Data Displaying Software **206B615c7** of Device B, which display(s) the oxygen flow data. In this embodiment, CPU **211** (FIG. **1**) of Device B retrieves the oxygen flow data from Oxygen Flow Data Storage Area **206B615b2** (S1). CPU **211** (FIG. **1**) of Device B displays the oxygen flow data retrieved in the previous step on LCD **201** (FIG. **1**) of Device B (S2). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Remaining Oxygen Time Data Producing Software H**615c8** of Host H, which produce(s) the remaining oxygen time data. In this embodiment, Host H retrieves the oxygen flow data from Oxygen Flow Data Storage Area H**615b2** (S1). Host H retrieves the remaining oxygen data from Remaining Oxygen Data Storage Area H**615b1** (S2). Host H produces the remaining oxygen time data by referring to the oxygen flow data retrieved in S1 and the remaining oxygen data retrieved in the previous step (S3). Host H stores the remaining oxygen time data produced in the

previous step in Remaining Oxygen Time Data Storage Area H**615b3** (S4). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Remaining Oxygen Time Data Producing Software **206B615c8** of Device B, which produce(s) the remaining oxygen time data. In this embodiment, CPU **211** (FIG. **1**) of Device B retrieves the oxygen flow data from Oxygen Flow Data Storage Area **206B615b2** (S1). CPU **211** (FIG. **1**) of Device B retrieves the remaining oxygen data from Remaining Oxygen Data Storage Area **206B615b1** (S2). CPU **211** (FIG. **1**) of Device B produces the remaining oxygen time data by referring to the oxygen flow data retrieved in S1 and the remaining oxygen data retrieved in the previous step (S3). CPU **211** (FIG. **1**) of Device B stores the remaining oxygen time data produced in the previous step in Remaining Oxygen Time Data Storage Area **206B615b3** (S4). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Remaining Oxygen Time Data Displaying Software H**615c9** of Host H and Remaining Oxygen Time Data Displaying Software **206A615c9** of Device A, which display(s) the remaining oxygen time data. In this embodiment, Host H retrieves the remaining oxygen time data from Remaining Oxygen Time Data Storage Area H**615b3** and sends the data to Device A (S1). CPU **211** (FIG. **1**) of Device A receives the remaining oxygen time data from Host H in a wireless fashion and displays the data on LCD **201** (FIG. **1**) of Device A (S2). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Remaining Oxygen Time Data Displaying Software **206B615c9** of Device B, which display(s) the remaining oxygen time data. In this embodiment, CPU **211** (FIG. **1**) of Device B retrieves the remaining oxygen time data from Remaining Oxygen Time Data Storage Area **206B615b3** (S1). CPU **211** (FIG. **1**) of Device B displays the remaining oxygen time data retrieved in the previous step on LCD **201** (FIG. **1**) of Device B (S2). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Oxygen Alert Message Data Displaying Software H**615c10** of Host H and Oxygen Alert Message Data Displaying Software **206A615c10** of Device A, which display(s) the oxygen alert message data. In this embodiment, Host H retrieves the remaining oxygen data from Remaining Oxygen Data Storage Area H**615b1** (S1). If the remaining oxygen data is below a certain value, Host H proceeds to the next step (S2). Host H retrieves the oxygen alert message data from Oxygen Alert Message Data Storage Area H**615b4** and sends the data to Device A (S3). CPU **211** (FIG. **1**) of Device A receives the oxygen alert message data from Host H in a wireless fashion and displays the data on LCD **201** (FIG. **1**) of Device A (S4). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Oxygen Alert Message Data Displaying Software **206B615c10** of Device B, which display(s) the oxygen alert message data. In this embodiment, CPU **211** (FIG. **1**) of Device B retrieves the remaining oxygen data from Remaining Oxygen Data Storage Area **206B615b1** (S1). If the remaining oxygen data is below a certain value, CPU **211** (FIG. **1**) of Device B proceeds to the next step (S2). CPU **211** (FIG. **1**) of Device B retrieves the oxygen alert message data from Oxygen Alert Message Data Storage Area **206B615b4** (S3). CPU **211** (FIG. **1**) of Device B displays the oxygen alert message data retrieved in the previous step on LCD **201** (FIG. **1**) of Device B (S4). The foregoing sequence is repeated periodically.

The following paragraphs illustrate another embodiment wherein Device A plays the major role in implementing the present function.

This paragraph illustrate(s) Remaining Oxygen Data Producing Software 206A615c1 of Device A, which produce(s) the remaining oxygen data. In this embodiment, CPU 211 (FIG. 1) of Device A identifies the amount of oxygen remaining in Oxygen Bottle OB615 by utilizing Oxygen Monitoring Sensor OMS615 (S1). CPU 211 (FIG. 1) of Device A produces the remaining oxygen data by referring to the amount of oxygen identified in the previous step (S2). CPU 211 (FIG. 1) of Device A stores the remaining oxygen data produced in the previous step in Remaining Oxygen Data Storage Area 206A615b1 (S3). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Remaining Oxygen Data Sharing Software 206A615c2 of Device A and Remaining Oxygen Data Sharing Software 206B615c2 of Device B, which share(s) the remaining oxygen data. In this embodiment, CPU 211 (FIG. 1) of Device A retrieves the remaining oxygen data from Remaining Oxygen Data Storage Area 206A615b1 and sends the data to Device B in a wireless fashion (S1). CPU 211 (FIG. 1) of Device B receives the remaining oxygen data from Device A in a wireless fashion and stores the data in Remaining Oxygen Data Storage Area 206B615b1 (S2). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Remaining Oxygen Data Displaying Software 206A615c3 of Device A, which display(s) the remaining oxygen data. In this embodiment, CPU 211 (FIG. 1) of Device A retrieves the remaining oxygen data from Remaining Oxygen Data Storage Area 206A615b1 (S1). CPU 211 (FIG. 1) of Device A displays the remaining oxygen data retrieved in the previous step on LCD 201 (FIG. 1) of Device A (S2). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Remaining Oxygen Data Displaying Software 206B615c3 of Device B, which display(s) the remaining oxygen data. In this embodiment, CPU 211 (FIG. 1) of Device B retrieves the remaining oxygen data from Remaining Oxygen Data Storage Area 206B615b1 (S1). CPU 211 (FIG. 1) of Device B displays the remaining oxygen data retrieved in the previous step on LCD 201 (FIG. 1) of Device B (S2). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Oxygen Flow Controlling Software 206A615c4 of Device A, which control(s) the flow of oxygen from Oxygen Bottle OB615. In this embodiment, the user of Device A inputs, by utilizing Input Device 210 (FIG. 1) or via voice recognition system, the oxygen flow controlling command (S1). Here, the oxygen flow controlling command is the command to control the flow of oxygen. The flow of oxygen may be increased or decreased in accordance with the foregoing command. CPU 211 (FIG. 1) of Device A controls the flow of oxygen from Oxygen Bottle OB615 in accordance with the oxygen flow controlling command input in the previous step via Oxygen Flow Controller OFC615 (S2).

This paragraph illustrate(s) Oxygen Flow Data Producing Software 206A615c5 of Device A, which produce(s) the oxygen flow data. In this embodiment, CPU 211 (FIG. 1) of Device A identifies the level of the current flow of the oxygen from Oxygen Bottle OB615 by utilizing Oxygen Flow Controller OFC615 (S1). CPU 211 (FIG. 1) of Device A produces the oxygen flow data by referring to the level of the current flow of the oxygen identified in the previous step (S2). CPU 211 (FIG. 1) of Device A stores the oxygen flow data produced in the previous step in Oxygen Flow Data Storage Area 206A615b2 (S3). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Oxygen Flow Data Sharing Software 206A615c6 of Device A and Oxygen Flow Data Sharing Software 206B615c6 of Device B, which share(s) the oxygen flow data. In this embodiment, CPU 211 (FIG. 1) of Device A retrieves the oxygen flow data from Oxygen Flow Data Storage Area 206A615b2 and sends the data to Device B in a wireless fashion (S1). CPU 211 (FIG. 1) of Device B receives the oxygen flow data from Device A in a wireless fashion and stores the data in Oxygen Flow Data Storage Area 206B615b2 (S2). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Oxygen Flow Data Displaying Software 206A615c7 of Device A, which display(s) the oxygen flow data. In this embodiment, CPU 211 (FIG. 1) of Device A retrieves the oxygen flow data from Oxygen Flow Data Storage Area 206A615b2 (S1). CPU 211 (FIG. 1) of Device A displays the oxygen flow data retrieved in the previous step on LCD 201 (FIG. 1) of Device A (S2). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Oxygen Flow Data Displaying Software 206B615c7 of Device B, which display(s) the oxygen flow data. In this embodiment, CPU 211 (FIG. 1) of Device B retrieves the oxygen flow data from Oxygen Flow Data Storage Area 206B615b2 (S1). CPU 211 (FIG. 1) of Device B displays the oxygen flow data retrieved in the previous step on LCD 201 (FIG. 1) of Device B (S2). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Remaining Oxygen Time Data Producing Software 206A615c8 of Device A, which produce(s) the remaining oxygen time data. In this embodiment, CPU 211 (FIG. 1) of Device A retrieves the oxygen flow data from Oxygen Flow Data Storage Area 206A615b2 (S1). CPU 211 (FIG. 1) of Device A retrieves the remaining oxygen data from Remaining Oxygen Data Storage Area 206A615b1 (S2). CPU 211 (FIG. 1) of Device A produces the remaining oxygen time data by referring to the oxygen flow data retrieved in S1 and the remaining oxygen data retrieved in the previous step (S3). CPU 211 (FIG. 1) of Device A stores the remaining oxygen time data produced in the previous step in Remaining Oxygen Time Data Storage Area 206A615b3 (S4). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Remaining Oxygen Time Data Producing Software 206B615c8 of Device B, which produce(s) the remaining oxygen time data. In this embodiment, CPU 211 (FIG. 1) of Device B retrieves the oxygen flow data from Oxygen Flow Data Storage Area 206B615b2 (S1). CPU 211 (FIG. 1) of Device B retrieves the remaining oxygen data from Remaining Oxygen Data Storage Area 206B615b1 (S2). CPU 211 (FIG. 1) of Device B produces the remaining oxygen time data by referring to the oxygen flow data retrieved in S1 and the remaining oxygen data retrieved in the previous step (S3). CPU 211 (FIG. 1) of Device B stores the remaining oxygen time data produced in the previous step in Remaining Oxygen Time Data Storage Area 206B615b3 (S4). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Remaining Oxygen Time Data Displaying Software 206A615c9 of Device A, which display(s) the remaining oxygen time data. In this embodiment, CPU 211 (FIG. 1) of Device A retrieves the remaining oxygen time data from Remaining Oxygen Time Data Storage Area 206A615b3 (S1). CPU 211 (FIG. 1) of Device A displays the remaining oxygen time data retrieved in the previous step on LCD 201 (FIG. 1) of Device A (S2). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Remaining Oxygen Time Data Displaying Software 206B615c9 of Device B, which display(s) the remaining oxygen time data. In this embodi-

ment, CPU **211** (FIG. **1**) of Device B retrieves the remaining oxygen time data from Remaining Oxygen Time Data Storage Area **206B615b3** (S1). CPU **211** (FIG. **1**) of Device B displays the remaining oxygen time data retrieved in the previous step on LCD **201** (FIG. **1**) of Device B (S2). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Oxygen Alert Message Data Displaying Software **206A615c10** of Device A, which display(s) the oxygen alert message data. In this embodiment, CPU **211** (FIG. **1**) of Device A retrieves the remaining oxygen data from Remaining Oxygen Data Storage Area **206A615b1** (S1). If the remaining oxygen data is below a certain value, CPU **211** (FIG. **1**) of Device A proceeds to the next step (S2). CPU **211** (FIG. **1**) of Device A retrieves the oxygen alert message data from Oxygen Alert Message Data Storage Area **206A615b4** (S3). CPU **211** (FIG. **1**) of Device A displays the oxygen alert message data retrieved in the previous step on LCD **201** (FIG. **1**) of Device A (S4). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Oxygen Alert Message Data Displaying Software **206B615c10** of Device B, which display(s) the oxygen alert message data. In this embodiment, CPU **211** (FIG. **1**) of Device B retrieves the remaining oxygen data from Remaining Oxygen Data Storage Area **206B615b1** (S1). If the remaining oxygen data is below a certain value, CPU **211** (FIG. **1**) of Device B proceeds to the next step (S2). CPU **211** (FIG. **1**) of Device B retrieves the oxygen alert message data from Oxygen Alert Message Data Storage Area **206B615b4** (S3). CPU **211** (FIG. **1**) of Device B displays the oxygen alert message data retrieved in the previous step on LCD **201** (FIG. **1**) of Device B (S4). The foregoing sequence is repeated periodically.

<<Silent Mode Auto Subtitle Displaying Function>>

The following paragraphs illustrate the silent mode auto subtitle displaying mode, wherein when said communication device is in the ringing mode, the audio portion and the visual portion of the TV program data are output from said speaker and said display, and when said communication device is in the silent mode, the visual portion of the TV program data and the corresponding subtitle data are displayed on said display

This paragraph illustrates the storage area included in Host H. In this embodiment, Host H includes Silent Mode Auto Subtitle Displaying Information Storage Area H**617a** of which the data and the software program(s) stored therein are described hereinafter.

This paragraph illustrates the storage area(s) included in Silent Mode Auto Subtitle Displaying Information Storage Area H**617a**. In this embodiment, Silent Mode Auto Subtitle Displaying Information Storage Area H**617a** includes Silent Mode Auto Subtitle Displaying Data Storage Area H**617b** and Silent Mode Auto Subtitle Displaying Software Storage Area H**617c**. Silent Mode Auto Subtitle Displaying Data Storage Area H**617b** stores the data necessary to implement the present function on the side of Host H, such as the one(s) described hereinafter. Silent Mode Auto Subtitle Displaying Software Storage Area H**617c** stores the software program(s) necessary to implement the present function on the side of Host H, such as the one(s) described hereinafter.

This paragraph illustrates the storage area(s) included in Silent Mode Auto Subtitle Displaying Data Storage Area H**617b**. In this embodiment, Silent Mode Auto Subtitle Displaying Data Storage Area H**617b** includes Device Status Data Storage Area H**617b1**, Television Audiovisual Data Storage Area H**617b2**, Television Subtitle Data Storage Area H**617b3**, and Work Area H**617b4**. Device Status Data Storage Area H**617b1** stores the device status data which is either the ringing mode data or the silent mode data. Both data indicate

the current status of Communication Device **200**. If the ringing mode data is stored therein, Communication Device **200** outputs a ringing sound when receiving a phone call. If the silent mode data is stored therein, Communication Device **200** activates Vibrator **217** (FIG. **1**) when receiving a phone call. Television Audiovisual Data Storage Area H**617b2** stores the television audiovisual data which is the audiovisual data indicating a TV program received from a TV broadcast center (not shown). Television Subtitle Data Storage Area H**617b3** stores the television subtitle data which indicates the subtitle of the television audiovisual data. Work Area H**617b4** is utilized as a work area to perform calculation and temporarily store data.

This paragraph illustrates the software program(s) stored in Silent Mode Auto Subtitle Displaying Software Storage Area H**617c**. In this embodiment, Silent Mode Auto Subtitle Displaying Software Storage Area H**617c** stores Ringing Mode Data Storing Software H**617c1**, Silent Mode Data Storing Software H**617c2**, Television Audiovisual Data Receiving Software H**617c3**, Television Audiovisual Data Normal Outputting Software H**617c4**, and Television Subtitle Data Displaying Software H**617c5**. Ringing Mode Data Storing Software H**617c1** is the software program described hereinafter. Silent Mode Data Storing Software H**617c2** is the software program described hereinafter. Television Audiovisual Data Receiving Software H**617c3** is the software program described hereinafter. Television Audiovisual Data Normal Outputting Software H**617c4** is the software program described hereinafter. Television Subtitle Data Displaying Software H**617c5** is the software program described hereinafter.

This paragraph illustrates the storage area included in RAM **206** (FIG. **1**) of Communication Device **200**. In this embodiment, RAM **206** includes Silent Mode Auto Subtitle Displaying Information Storage Area **206617a** of which the data and the software program(s) stored therein are described hereinafter.

The data and/or the software program(s) necessary to implement the present function may be downloaded from Host H to Communication Device **200**.

This paragraph illustrates the storage area(s) included in Silent Mode Auto Subtitle Displaying Information Storage Area **206617a**. In this embodiment, Silent Mode Auto Subtitle Displaying Information Storage Area **206617a** includes Silent Mode Auto Subtitle Displaying Data Storage Area **206617b** and Silent Mode Auto Subtitle Displaying Software Storage Area **206617c**. Silent Mode Auto Subtitle Displaying Data Storage Area **206617b** stores the data necessary to implement the present function on the side of Communication Device **200**, such as the one(s) described hereinafter. Silent Mode Auto Subtitle Displaying Software Storage Area **206617c** stores the software program(s) necessary to implement the present function on the side of Communication Device **200**, such as the one(s) described hereinafter.

This paragraph illustrates the storage area(s) included in Silent Mode Auto Subtitle Displaying Data Storage Area **206617b**. In this embodiment, Silent Mode Auto Subtitle Displaying Data Storage Area **206617b** includes Device Status Data Storage Area **206617b1**, Television Audiovisual Data Storage Area **206617b2**, Television Subtitle Data Storage Area **206617b3**, and Work Area **206617b4**. Device Status Data Storage Area **206617b1** stores the device status data which is either the ringing mode data or the silent mode data. Both data indicate the current status of Communication Device **200**. If the ringing mode data is stored therein, Communication Device **200** outputs a ringing sound when receiving a phone call. If the silent mode data is stored therein,

Communication Device **200** activates Vibrator **217** (FIG. **1**) when receiving a phone call. Television Audiovisual Data Storage Area **206617***b***2** stores the television audiovisual data which is the audiovisual data indicating a TV program received from a TV broadcast center (not shown). Television Subtitle Data Storage Area **206617***b***3** stores the television subtitle data which indicates the subtitle of the television audiovisual data. Work Area **206617***b***4** is utilized as a work area to perform calculation and temporarily store data.

This paragraph illustrates the software program(s) stored in Silent Mode Auto Subtitle Displaying Software Storage Area **206617***c*. In this embodiment, Silent Mode Auto Subtitle Displaying Software Storage Area **206617***c* stores Ringing Mode Data Storing Software **206617***c***1**, Silent Mode Data Storing Software **206617***c***2**, Television Audiovisual Data Receiving Software **206617***c***3**, Television Audiovisual Data Normal Outputting Software **206617***c***4**, and Television Subtitle Data Displaying Software **206617***c***5**. Ringing Mode Data Storing Software **206617***c***1** is the software program described hereinafter. Silent Mode Data Storing Software **206617***c***2** is the software program described hereinafter. Television Audiovisual Data Receiving Software **206617***c***3** is the software program described hereinafter. Television Audiovisual Data Normal Outputting Software **206617***c***4** is the software program described hereinafter. Television Subtitle Data Displaying Software **206617***c***5** is the software program described hereinafter.

This paragraph illustrate(s) Ringing Mode Data Storing Software H**617***c***1** of Host H and Ringing Mode Data Storing Software **206617***c***1** of Communication Device **200**, which store(s) the ringing mode data. In this embodiment, the user of Communication Device **200** inputs, by utilizing Input Device **210** (FIG. **1**) or via voice recognition system, the ringing mode data storing command (S1). Here, the ringing mode data storing command is the command to store the ringing mode data. CPU **211** (FIG. **1**) sends the ringing mode data storing command input in the previous step to Host H in a wireless fashion (S2). Host H receives the ringing mode data storing command from Communication Device **200** (S3). Host H stores the ringing mode data in Device Status Data Storage Area H**617***b***1** (S4).

This paragraph illustrate(s) Silent Mode Data Storing Software H**617***c***2** of Host H and Silent Mode Data Storing Software **206617***c***2** of Communication Device **200**, which store(s) the silent mode data. In this embodiment, the user of Communication Device **200** inputs, by utilizing Input Device **210** (FIG. **1**) or via voice recognition system, the silent mode data storing command (S1). Here, the silent mode data storing command is the command to store the silent mode data. CPU **211** (FIG. **1**) sends the silent mode data storing command input in the previous step to Host H in a wireless fashion (S2). Host H receives the silent mode data storing command from Communication Device **200** (S3). Host H stores the silent mode data in Device Status Data Storage Area H**617***b***1** (S4).

This paragraph illustrate(s) Television Audiovisual Data Receiving Software H**617***c***3** of Host H, which receive(s) the television audiovisual data. In this embodiment, Host H receives the television audiovisual data and the television subtitle data from a broadcast center (not shown) (S1). Host H stores the television audiovisual data received in the previous step in Television Audiovisual Data Storage Area H**617***b***2** (S2). Host H stores the television subtitle data received in S1 in Television Subtitle Data Storage Area H**617***b***3** (S3). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Television Audiovisual Data Normal Outputting Software H**617***c***4** of Host H and Television Audiovisual Data Normal Outputting Software

206617*c***4** of Communication Device **200**, which output(s) both the audio portion and the visual portion of the television audiovisual data. In this embodiment, the user of Communication Device **200** inputs, by utilizing Input Device **210** (FIG. **1**) or via voice recognition system, the television audiovisual data outputting command (S1). Here, the television audiovisual data outputting command is the command to output the television audiovisual data. CPU **211** (FIG. **1**) sends the television audiovisual data outputting command input in the previous step to Host H in a wireless fashion (S2). Host H receives the television audiovisual data outputting command from Communication Device **200** (S3). Host H identifies the data stored in Device Status Data Storage Area H**617***b***1** (S4). If the ringing mode data is stored in Device Status Data Storage Area H**617***b***1**, Host H proceeds to the next step (S5). Host H retrieves the television audiovisual data from Television Audiovisual Data Storage Area H**617***b***2** and sends the data to Communication Device **200** (S6). CPU **211** (FIG. **1**) receives the television audiovisual data from Host H in a wireless fashion and outputs the data from Speaker **216** (FIG. **1**) and LCD **201** (FIG. **1**) (S7). The sequence of S4 through S7 is repeated thereafter (S8).

This paragraph illustrate(s) Television Subtitle Data Displaying Software H**617***c***5** of Host H and Television Subtitle Data Displaying Software **206617***c***5** of Communication Device **200**, which display(s) the visual portion of the television audiovisual data and the corresponding television subtitle data. In this embodiment, the user of Communication Device **200** inputs, by utilizing Input Device **210** (FIG. **1**) or via voice recognition system, the television audiovisual data outputting command (S1). Here, the television audiovisual data outputting command is the command to output the television audiovisual data. CPU **211** (FIG. **1**) sends the television audiovisual data outputting command input in the previous step to Host H in a wireless fashion (S2). Host H receives the television audiovisual data outputting command from Communication Device **200** (S3). Host H identifies the data stored in Device Status Data Storage Area H**617***b***1** (S4). If the silent mode data is stored in Device Status Data Storage Area H**617***b***1**, Host H proceeds to the next step (S5). Host H retrieves the visual portion of the television audiovisual data from Television Audiovisual Data Storage Area H**617***b***2** and sends the data to Communication Device **200** (S6). CPU **211** (FIG. **1**) receives the visual portion of the television audiovisual data from Host H in a wireless fashion and displays the data on LCD **201** (FIG. **1**) (S7). Host H retrieves the television subtitle data from Television Subtitle Data Storage Area H**617***b***3** and sends the data to Communication Device **200** (S8). CPU **211** (FIG. **1**) receives the television subtitle data from Host H in a wireless fashion and displays the data on LCD **201** (FIG. **1**) (S9). The sequence of S4 through S9 is repeated thereafter (S10).

The following paragraphs illustrate another embodiment wherein Communication Device **200** plays the major role in implementing the present function.

This paragraph illustrate(s) Ringing Mode Data Storing Software **206617***c***1** of Communication Device **200**, which store(s) the ringing mode data. In this embodiment, the user of Communication Device **200** inputs, by utilizing Input Device **210** (FIG. **1**) or via voice recognition system, the ringing mode data storing command (S1). Here, the ringing mode data storing command is the command to store the ringing mode data. CPU **211** (FIG. **1**) stores the ringing mode data in Device Status Data Storage Area **206617***b***1** (S2).

This paragraph illustrate(s) Silent Mode Data Storing Software **206617***c***2** of Communication Device **200**, which store(s) the silent mode data. In this embodiment, the user of

Communication Device 200 inputs, by utilizing Input Device 210 (FIG. 1) or via voice recognition system, the silent mode data storing command (S1). Here, the silent mode data storing command is the command to store the silent mode data. CPU 211 (FIG. 1) stores the silent mode data in Device Status Data Storage Area 206617b1 (S2).

This paragraph illustrate(s) Television Audiovisual Data Receiving Software 206617c3 of Communication Device 200, which receive(s) the television audiovisual data. In this embodiment, CPU 211 (FIG. 1) receives the television audiovisual data and the television subtitle data from a broadcast center (not shown) (S1). CPU 211 (FIG. 1) stores the television audiovisual data received in the previous step in Television Audiovisual Data Storage Area 206617b2 (S2). CPU 211 (FIG. 1) stores the television subtitle data received in S1 in Television Subtitle Data Storage Area 206617b3 (S3). The foregoing sequence is repeated periodically.

This paragraph illustrate(s) Television Audiovisual Data Normal Outputting Software 206617c4 of Communication Device 200, which output(s) both the audio portion and the visual portion of the television audiovisual data. In this embodiment, the user of Communication Device 200 inputs, by utilizing Input Device 210 (FIG. 1) or via voice recognition system, the television audiovisual data outputting command (S1). Here, the television audiovisual data outputting command is the command to output the television audiovisual data. CPU 211 (FIG. 1) identifies the data stored in Device Status Data Storage Area 206617b1 (S2). If the ringing mode data is stored in Device Status Data Storage Area 206617b1, CPU 211 (FIG. 1) proceeds to the next step (S3). CPU 211 (FIG. 1) retrieves the television audiovisual data from Television Audiovisual Data Storage Area 206617b2 (S4). CPU 211 (FIG. 1) outputs the television audiovisual data retrieved in the previous step from Speaker 216 (FIG. 1) and LCD 201 (FIG. 1) (S5). CPU 211 (FIG. 1) repeats S2 through S5 (S6).

This paragraph illustrate(s) Television Subtitle Data Displaying Software 206617c5 of Communication Device 200, which display(s) the visual portion of the television audiovisual data and the television subtitle data. In this embodiment, the user of Communication Device 200 inputs, by utilizing Input Device 210 (FIG. 1) or via voice recognition system, the television audiovisual data outputting command (S1). Here, the television audiovisual data outputting command is the command to output the television audiovisual data. CPU 211 (FIG. 1) identifies the data stored in Device Status Data Storage Area 206617b1 (S2). If the silent mode data is stored in Device Status Data Storage Area 206617b1, CPU 211 (FIG. 1) proceeds to the next step (S3). CPU 211 (FIG. 1) retrieves the visual portion of the television audiovisual data from Television Audiovisual Data Storage Area 206617b2 (S4). CPU 211 (FIG. 1) displays the visual portion of the television audiovisual data retrieved in the previous step on LCD 201 (FIG. 1) (S5). CPU 211 (FIG. 1) retrieves the television subtitle data from Television Subtitle Data Storage Area 206617b3 (S6). CPU 211 (FIG. 1) displays the television subtitle data retrieved in the previous step on LCD 201 (FIG. 1) (S7). CPU 211 (FIG. 1) repeats S2 through S7 (S8).

<<Silent Mode Auto Answerphone Message Displaying Function>>

The following paragraphs illustrate the silent mode auto answerphone message displaying mode, wherein when said communication device is in a ringing mode, an answerphone message audio data which is the audio data indicating the message left by a caller is output from said speaker, and when said communication device is in a silent mode, said answerphone message audio data is converted to text data and displayed on said display.

This paragraph illustrates the storage area included in Host H. In this embodiment, Host H includes Silent Mode Auto Answerphone Message Displaying Information Storage Area H618a of which the data and the software program(s) stored therein are described hereinafter.

This paragraph illustrates the storage area(s) included in Silent Mode Auto Answerphone Message Displaying Information Storage Area H618a. In this embodiment, Silent Mode Auto Answerphone Message Displaying Information Storage Area H618a includes Silent Mode Auto Answerphone Message Displaying Data Storage Area H618b and Silent Mode Auto Answerphone Message Displaying Software Storage Area H618c. Silent Mode Auto Answerphone Message Displaying Data Storage Area H618b stores the data necessary to implement the present function on the side of Host H, such as the one(s) described hereinafter. Silent Mode Auto Answerphone Message Displaying Software Storage Area H618c stores the software program(s) necessary to implement the present function on the side of Host H, such as the one(s) described hereinafter.

This paragraph illustrates the storage area(s) included in Silent Mode Auto Answerphone Message Displaying Data Storage Area H618b. In this embodiment, Silent Mode Auto Answerphone Message Displaying Data Storage Area H618b includes Device Status Data Storage Area H618b1, Answerphone Message Audio Data Storage Area H618b2, Answerphone Message Text Data Storage Area H618b3, Speech-To-Text Data Storage Area H618b4, and Work Area H618b5. Device Status Data Storage Area H618b1 stores the device status data which is either the ringing mode data or the silent mode data. Both data indicate the current status of Communication Device 200. If the ringing mode data is stored therein, Communication Device 200 outputs a ringing sound when receiving a phone call. If the silent mode data is stored therein, Communication Device 200 activates Vibrator 217 (FIG. 1) when receiving a phone call. Answerphone Message Audio Data Storage Area H618b2 stores the answerphone message audio data which is the audio data indicating the audio message left by the caller. Answerphone Message Text Data Storage Area H618b3 stores the answerphone message text data which is the answerphone message audio data converted to text data. Speech-To-Text Data Storage Area H618b4 stores the speech-to-text data which is utilized to convert audio data to corresponding text data. Work Area H618b5 is utilized as a work area to perform calculation and temporarily store data.

This paragraph illustrates the software program(s) stored in Silent Mode Auto Answerphone Message Displaying Software Storage Area H618c. In this embodiment, Silent Mode Auto Answerphone Message Displaying Software Storage Area H618c stores Ringing Mode Data Storing Software H618c1, Silent Mode Data Storing Software H618c2, Answerphone Message Audio Data Normal Outputting Software H618c3, and Answerphone Message Text Data Displaying Software H618c4. Ringing Mode Data Storing Software H618c1 is the software program described hereinafter. Silent Mode Data Storing Software H618c2 is the software program described hereinafter. Answerphone Message Audio Data Normal Outputting Software H618c3 is the software program described hereinafter. Answerphone Message Text Data Displaying Software H618c4 is the software program described hereinafter.

This paragraph illustrates the storage area included in RAM 206 (FIG. 1) of Communication Device 200. In this embodiment, RAM 206 includes Silent Mode Auto Answerphone Message Displaying Information Storage Area

206618a of which the data and the software program(s) stored therein are described hereinafter.

The data and/or the software program(s) necessary to implement the present function may be downloaded from Host H to Communication Device 200.

This paragraph illustrates the storage area(s) included in Silent Mode Auto Answerphone Message Displaying Information Storage Area 206618a. In this embodiment, Silent Mode Auto Answerphone Message Displaying Information Storage Area 206618a includes Silent Mode Auto Answerphone Message Displaying Data Storage Area 206618b and Silent Mode Auto Answerphone Message Displaying Software Storage Area 206618c. Silent Mode Auto Answerphone Message Displaying Data Storage Area 206618b stores the data necessary to implement the present function on the side of Communication Device 200, such as the one(s) described hereinafter. Silent Mode Auto Answerphone Message Displaying Software Storage Area 206618c stores the software program(s) necessary to implement the present function on the side of Communication Device 200, such as the one(s) described hereinafter.

This paragraph illustrates the storage area(s) included in Silent Mode Auto Answerphone Message Displaying Data Storage Area 206618b. In this embodiment, Silent Mode Auto Answerphone Message Displaying Data Storage Area 206618b includes Device Status Data Storage Area 206618b1, Answerphone Message Audio Data Storage Area 206618b2, Answerphone Message Text Data Storage Area 206618b3, Speech-To-Text Data Storage Area 206618b4, and Work Area 206618b5. Device Status Data Storage Area 206618b1 stores the device status data which is either the ringing mode data or the silent mode data. Both data indicate the current status of Communication Device 200. If the ringing mode data is stored therein, Communication Device 200 outputs a ringing sound when receiving a phone call. If the silent mode data is stored therein, Communication Device 200 activates Vibrator 217 (FIG. 1) when receiving a phone call. Answerphone Message Audio Data Storage Area 206618b2 stores the answerphone message audio data which is the audio data indicating the audio message left by the caller. Answerphone Message Text Data Storage Area 206618b3 stores the answerphone message text data which is the answerphone message audio data converted to text data. Speech-To-Text Data Storage Area 206618b4 stores the speech-to-text data which is utilized to convert audio data to corresponding text data. Work Area 206618b5 is utilized as a work area to perform calculation and temporarily store data.

This paragraph illustrates the software program(s) stored in Silent Mode Auto Answerphone Message Displaying Software Storage Area 206618c. In this embodiment, Silent Mode Auto Answerphone Message Displaying Software Storage Area 206618c stores Ringing Mode Data Storing Software 206618c1, Silent Mode Data Storing Software 206618c2, Answerphone Message Audio Data Normal Outputting Software 206618c3, and Answerphone Message Text Data Displaying Software 206618c4. Ringing Mode Data Storing Software 206618c1 is the software program described hereinafter. Silent Mode Data Storing Software 206618c2 is the software program described hereinafter. Answerphone Message Audio Data Normal Outputting Software 206618c3 is the software program described hereinafter. Answerphone Message Text Data Displaying Software 206618c4 is the software program described hereinafter.

This paragraph illustrate(s) Ringing Mode Data Storing Software H618c1 of Host H and Ringing Mode Data Storing Software 206618c1 of Communication Device 200, which store(s) the ringing mode data. In this embodiment, the user of

Communication Device 200 inputs, by utilizing Input Device 210 (FIG. 1) or via voice recognition system, the ringing mode data storing command (S1). Here, the ringing mode data storing command is the command to store the ringing mode data. CPU 211 (FIG. 1) sends the ringing mode data storing command input in the previous step to Host H in a wireless fashion (S2). Host H receives the ringing mode data storing command from Communication Device 200 (S3). Host H stores the ringing mode data in Device Status Data Storage Area H618b1 (S4).

This paragraph illustrate(s) Silent Mode Data Storing Software H618c2 of Host H and Silent Mode Data Storing Software 206618c2 of Communication Device 200, which store(s) the silent mode data. In this embodiment, the user of Communication Device 200 inputs, by utilizing Input Device 210 (FIG. 1) or via voice recognition system, the silent mode data storing command (S1). Here, the silent mode data storing command is the command to store the silent mode data. CPU 211 (FIG. 1) sends the silent mode data storing command input in the previous step to Host H in a wireless fashion (S2). Host H receives the silent mode data storing command from Communication Device 200 (S3). Host H stores the silent mode data in Device Status Data Storage Area H618b1 (S4).

This paragraph illustrate(s) Answerphone Message Audio Data Normal Outputting Software H618c3 of Host H and Answerphone Message Audio Data Normal Outputting Software 206618c3 of Communication Device 200, which output(s) the answerphone message audio data. In this embodiment, the user of Communication Device 200 inputs, by utilizing Input Device 210 (FIG. 1) or via voice recognition system, the answerphone message audio data outputting command (S1). Here, the answerphone message audio data outputting command is the command to output the answerphone message audio data. CPU 211 (FIG. 1) sends the answerphone message audio data outputting command input in the previous step to Host H in a wireless fashion (S2). Host H receives the answerphone message audio data outputting command from Communication Device 200 (S3). Host H identifies the data stored in Device Status Data Storage Area H618b1 (S4). If the ringing mode data is stored in Device Status Data Storage Area H618b1, Host H proceeds to the next step (S5). Host H retrieves the answerphone message audio data from Answerphone Message Audio Data Storage Area H618b2 and sends the data to Communication Device 200 (S6). CPU 211 (FIG. 1) receives the answerphone message audio data from Host H in a wireless fashion and outputs the data from Speaker 216 (FIG. 1) (S7). The sequence of S4 through S7 is repeated thereafter (S8).

This paragraph illustrate(s) Answerphone Message Text Data Displaying Software H618c4 of Host H and Answerphone Message Text Data Displaying Software 206618c4 of Communication Device 200, which display(s) the answerphone message text data. In this embodiment, the user of Communication Device 200 inputs, by utilizing Input Device 210 (FIG. 1) or via voice recognition system, the answerphone message audio data outputting command (S1). Here, the answerphone message audio data outputting command is the command to output the answerphone message audio data. CPU 211 (FIG. 1) sends the answerphone message audio data outputting command input in the previous step to Host H in a wireless fashion (S2). Host H receives the answerphone message audio data outputting command from Communication Device 200 (S3). Host H identifies the data stored in Device Status Data Storage Area H618b1 (S4). If the silent mode data is stored in Device Status Data Storage Area H618b1, Host H proceeds to the next step (S5). Host H retrieves the answerphone message audio data from Answerphone Message

Audio Data Storage Area H618*b*2 (S6). Host H retrieves the speech-to-text data from Speech-To-Text Data Storage Area H618*b*4 (S7). Host H produces the answerphone message text data by converting the answerphone message audio data retrieved in S6 to text data by utilizing the speech-to-text data retrieved in the previous step (S8). Host H stores the answerphone message text data produced in the previous step in Answerphone Message Text Data Storage Area H618*b*3 (S9). Host H retrieves the answerphone message text data from Answerphone Message Text Data Storage Area H618*b*3 and sends the data to Communication Device 200 (S10). CPU 211 (FIG. 1) receives the answerphone message text data from Host H in a wireless fashion and outputs the data from Speaker 216 (FIG. 1) (S11). The sequence of S4 through S11 is repeated thereafter (S12).

The following paragraphs illustrate another embodiment wherein Communication Device 200 plays the major role in implementing the present function.

This paragraph illustrate(s) Ringing Mode Data Storing Software 206618*c*1 of Communication Device 200, which store(s) the ringing mode data. In this embodiment, the user of Communication Device 200 inputs, by utilizing Input Device 210 (FIG. 1) or via voice recognition system, the ringing mode data storing command (S1). Here, the ringing mode data storing command is the command to store the ringing mode data. CPU 211 (FIG. 1) stores the ringing mode data in Device Status Data Storage Area 206618*b*1 (S2).

This paragraph illustrate(s) Silent Mode Data Storing Software 206618*c*2 of Communication Device 200, which store(s) the silent mode data. In this embodiment, the user of Communication Device 200 inputs, by utilizing Input Device 210 (FIG. 1) or via voice recognition system, the silent mode data storing command (S1). Here, the silent mode data storing command is the command to store the silent mode data. CPU 211 (FIG. 1) stores the silent mode data in Device Status Data Storage Area 206618*b*1 (S2).

This paragraph illustrate(s) Answerphone Message Audio Data Normal Outputting Software 206618*c*3 of Communication Device 200, which output(s) the answerphone message audio data. In this embodiment, the user of Communication Device 200 inputs, by utilizing Input Device 210 (FIG. 1) or via voice recognition system, the answerphone message audio data outputting command (S1). Here, the answerphone message audio data outputting command is the command to output the answerphone message audio data. CPU 211 (FIG. 1) identifies the data stored in Device Status Data Storage Area 206618*b*1 (S2). If the ringing mode data is stored in Device Status Data Storage Area 206618*b*1, CPU 211 (FIG. 1) proceeds to the next step (S3). CPU 211 (FIG. 1) retrieves the answerphone message audio data from Answerphone Message Audio Data Storage Area 206618*b*2 (S4). CPU 211 (FIG. 1) outputs the answerphone message audio data retrieved in the previous step from Speaker 216 (FIG. 1) (S5). CPU 211 (FIG. 1) repeats S2 through S5 (S6).

This paragraph illustrate(s) Answerphone Message Text Data Displaying Software 206618*c*4 of Communication Device 200, which display(s) the answerphone message text data. In this embodiment, the user of Communication Device 200 inputs, by utilizing Input Device 210 (FIG. 1) or via voice recognition system, the answerphone message audio data outputting command (S1). Here, the answerphone message audio data outputting command is the command to output the answerphone message audio data. CPU 211 (FIG. 1) identifies the data stored in Device Status Data Storage Area 206618*b*1 (S2). If the silent mode data is stored in Device Status Data Storage Area 206618*b*1, CPU 211 (FIG. 1) proceeds to the next step (S3). CPU 211 (FIG. 1) retrieves the

answerphone message audio data from Answerphone Message Audio Data Storage Area 206618*b*2 (S4). CPU 211 (FIG. 1) retrieves the speech-to-text data from Speech-To-Text Data Storage Area 206618*b*4 (S5). CPU 211 (FIG. 1) produces the answerphone message text data by converting the answerphone message audio data retrieved in S4 to text data by utilizing the speech-to-text data retrieved in the previous step (S6). CPU 211 (FIG. 1) stores the answerphone message text data produced in the previous step in Answerphone Message Text Data Storage Area 206618*b*3 (S7). CPU 211 (FIG. 1) retrieves the answerphone message text data from Answerphone Message Text Data Storage Area 206618*b*3 (S8). CPU 211 (FIG. 1) outputs the answerphone message text data retrieved in the previous step from Speaker 216 (FIG. 1) (S9). CPU 211 (FIG. 1) repeats S2 through S9 (S10).

<<Multiple Mode Implementing Function>>

The following paragraphs illustrate(s) the multiple mode implementing function of Communication Device 200 which enables to activate and implement a plurality of modes, functions, and/or systems described in this specification simultaneously.

This paragraph illustrate(s) the software programs stored in RAM 206 (FIG. 1) to implement the multiple mode implementing function (FIG. 1). In the present embodiment, RAM 206 includes Multiple Mode Implementer Storage Area 20690*a*. Multiple Mode Implementer Storage Area 20690*a* stores Multiple Mode Implementer 20690*b*, Mode List Displaying Software 20690*c*, Mode Selecting Software 20690*d*, Mode Activating Software 20690*e*, and Mode Implementation Repeater 20690*f*, all of which are software programs. Multiple Mode Implementer 20690*b* administers the overall implementation of the present function. One of the major tasks of Multiple Mode Implementer 20690*b* is to administer and control the timing and sequence of Mode List Displaying Software 20690*c*, Mode Selecting Software 20690*d*, Mode Activating Software 20690*e*, and Mode Implementation Repeater 20690*f*. For example, Multiple Mode Implementer 20690*b* executes them in the following order: Mode List Displaying Software 20690*c*, Mode Selecting Software 20690*d*, Mode Activating Software 20690*e*, and Mode Implementation Repeater 20690*f*. Mode List Displaying Software 20690*c* displays on LCD 201 (FIG. 1) a list of a certain amount or all modes, functions, and/or systems explained in this specification of which the sequence is explained hereinafter. Mode Selecting Software 20690*d* selects a certain amount or all modes, functions, and/or systems explained in this specification of which the sequence is explained hereinafter. Mode Activating Software 20690*e* activates a certain amount or all modes, functions, and/or systems selected by the Mode Selecting Software 20690*d* of which the sequence is explained hereinafter. Mode Implementation Repeater 20690*f* executes Multiple Mode Implementer 20690*b* which reactivates Mode List Displaying Software 20690*c*, Mode Selecting Software 20690*d*, Mode Activating Software 20690*e* of which the sequence is explained hereinafter.

This paragraph illustrate(s) the sequence of Mode List Displaying Software 20690*c*. In the present embodiment, CPU 211 (FIG. 1), under the command of Mode List Displaying Software 20690*c*, displays a list of a certain amount or all modes, functions, and/or systems described in this specification on LCD 201 (FIG. 1).

This paragraph illustrate(s) the sequence of Mode Selecting Software 20690*d*. In the present embodiment, the user of Communication Device 200 inputs an input signal by utilizing Input Device 210 (FIG. 1) or via voice recognition system identifying one of the modes, functions, and/or systems dis-

played on LCD **201** (FIG. **1**) (S1), and CPU **211** (FIG. **1**), under the command of Mode Selecting Software **20690***d*, interprets the input signal and selects the corresponding mode, function, or system (S2).

This paragraph illustrate(s) the sequence of Mode Activating Software **20690***e*. In the present embodiment, CPU **211** (FIG. **1**), under the command of Mode Activating Software **20690***e*, activates the mode, function, or, system selected in S2 explained hereinbefore. CPU **211** thereafter implements the activated mode, function, or system as described in the relevant embodiments in this specification.

This paragraph illustrate(s) the sequence of Mode Implementation Repeater **20690***f*. In the present embodiment, the user of Communication Device **200** inputs an input signal by utilizing Input Device **210** (FIG. **1**) or via voice recognition system (S1). Once the activation of the selected mode, function, or system described hereinbefore is completed, and if the input signal indicates to repeat the process to activate another mode, function, or system (S2), CPU **211** (FIG. **1**), under the command of Mode Implementation Repeater **20690***f*, executes Multiple Mode Implementer **20690***b*, which reactivates Mode List Displaying Software **20690***c*, Mode Selecting Software **20690***d*, and Mode Activating Software **20690***e* to activate the second mode, function, or system while the first mode, function, or system is implemented by utilizing the method of so-called 'time sharing' (S3). Mode List Displaying Software **20690***c*, Mode Selecting Software **20690***d*, and Mode Activating Software **20690***e* can be repeatedly executed until all modes, function, and systems displayed on LCD **201** (FIG. **1**) are selected and activated. The activation of modes, functions, and/or systems is not repeated if the input signal explained in S2 so indicates.

As another embodiment, Multiple Mode Implementer **20690***b*, Mode List Displaying Software **20690***c*, Mode Selecting Software **20690***d*, Mode Activating Software **20690***e*, and Mode Implementation Repeater **20690***f* described hereinbefore may be integrated into one software program, Multiple Mode Implementer **20690***b*. In the present embodiment, CPU **211** (FIG. **1**), first of all, displays a list of a certain amount or all modes, functions, and/or systems described in this specification on LCD **201** (FIG. **1**) (S1). Next, the user of Communication Device **200** inputs an input signal by utilizing Input Device **210** (FIG. **1**) or via voice recognition system identifying one of the modes, functions, and/or systems displayed on LCD **201** (S2), and CPU **211** interprets the input signal and selects the corresponding mode, function, or system (S3). CPU **211** activates the mode, function, or system selected in S3, and thereafter implements the activated mode, function, or system as described in the relevant embodiments in this specification (S4). Once the activation of the selected mode, function, or system described in S4 is completed, the user of Communication Device **200** inputs an input signal by utilizing Input Device **210** or via voice recognition system (S5). If the input signal indicates to repeat the process to activate another mode, function, or system (S6), CPU **211** repeats the steps S1 through S4 to activate the second mode, function, or system while the first mode, function, or system is implemented by utilizing the method so-called 'time sharing'. The steps of S1 though S4 can be repeatedly executed until all modes, function, and systems displayed on LCD **201** are selected and activated. The activation of modes, functions, and/or systems is not repeated if the input signal explained in S5 so indicates. As another embodiment, before or at the time one software program is activated, CPU **211** may, either automatically or manually (i.e., by a signal input by the user of Communication Device), terminate the other software programs already activated or

prohibit other software programs to be activated while one software program is implemented in order to save the limited space of RAM **206**, thereby allowing only one software program implemented at a time. For the avoidance of doubt, the meaning of each term 'mode(s)', 'function(s)', and 'system(s)' is equivalent to the others in this specification. Namely, the meaning of 'mode(s)' includes and is equivalent to that of 'function(s)' and 'system(s)', the meaning of 'function(s)' includes and is equivalent to that of 'mode(s)' and 'system(s)', and the meaning of 'system(s)' includes and is equivalent to that of 'mode(s)' and 'function(s)'. Therefore, even only mode(s) is expressly utilized in this specification, it impliedly includes function(s) and/or system(s) by its definition.

<<Incorporation By Reference>>

The following paragraphs and drawings described in U.S. Ser. No. 11/469,858 filed 2006 Sep. 2 are incorporated to this application by reference: the preamble described in paragraph [2149] (no drawings); Communication Device **200** (Voice Communication Mode) described in paragraphs [2150] through [2155] (FIGS. 1 through 2c); Voice Recognition System described in paragraphs [2156] through [2188] (FIGS. 3 through 19); Positioning System described in paragraphs [2189] through [2220] (FIGS. 20a through 32e); Auto Backup System described in paragraphs [2221] through [2230] (FIGS. 33 through 37); Signal Amplifier described in paragraphs [2231] through [2236] (FIG. 38); Audio/Video Data Capturing System described in paragraphs [2237] through [2249] (FIGS. 39 through 44b); Digital Mirror Function (1) described in paragraphs [2250] through [2258] (FIGS. 44c through 44e); Caller ID System described in paragraphs [2259] through [2266] (FIGS. 45 through 47); Stock Purchasing Function described in paragraphs [2267] through [2276] (FIGS. 48 through 52); Timer Email Function described in paragraphs [2277] through [2283] (FIGS. 53a and 53b); Call Blocking Function described in paragraphs [2284] through [2297] (FIGS. 54 through 59); Online Payment Function described in paragraphs [2298] through [2307] (FIGS. 60 through 64); Navigation System described in paragraphs [2308] through [2330] (FIGS. 65 through 74a); Remote Controlling System described in paragraphs [2331] through [2349] (FIGS. 75 through 85); Auto Emergency Calling System described in paragraphs [2350] through [2358] (FIGS. 86 and 87); Cellular TV Function described in paragraphs [2359] through [2443] (FIGS. 88 through 135); 3D Video Game Function described in paragraphs [2444] through [2456] (FIGS. 136 through 144); Digital Mirror Function (2) described in paragraphs [2457] through [2466] (FIGS. 145 through 155); Voice Recognition Sys—E-mail (2) described in paragraphs [2467] through [2475] (FIGS. 156 through 160); Positioning System—GPS Search Engine described in paragraphs [2476] through [2518] (FIGS. 161 through 182); Mobile Ignition Key Function described in paragraphs [2519] through [2541] (FIGS. 183 through 201); Voice Print Authentication System described in paragraphs [2542] through [2552] (FIGS. 202 through 211); Fingerprint Authentication System described in paragraphs [2553] through [2565] (FIGS. 212 through 221); Auto Time Adjust Function described in paragraphs [2566] through [2570] (FIGS. 222 through 224); Video/Photo Mode described in paragraphs [2571] through [2599] (FIGS. 225 through 242); Call Taxi Function described in paragraphs [2600] through [2640] (FIGS. 243 through 269); Shooting Video Game Function described in paragraphs [2641] through [2657] (FIGS. 270 through 283); Driving Video Game Function described in paragraphs [2658] through [2671] (FIGS. 284 through 294); Address Book Updating Function described in paragraphs [2672] through [2692] (FIGS. 295 through 312); Batch

Address Book Updating Function—With Host described in paragraphs [2693] through [2714] (FIGS. 313 through 329); Batch Address Book Updating Function—Peer-To-Peer Connection described in paragraphs [2715] through [2719] (FIGS. 329a through 329c); Batch Scheduler Updating Function—With Host described in paragraphs [2720] through [2743] (FIGS. 330 through 350); Batch Scheduler Updating Function—Peer-To-Peer Connection described in paragraphs [2744] through [2748] (FIGS. 351 and 352); Calculator Function described in paragraphs [2749] through [2754] (FIGS. 353 through 356); Spreadsheet Function described in paragraphs [2755] through [2762] (FIGS. 357 through 360); Word Processing Function described in paragraphs [2763] through [2778] (FIGS. 361 through 373); TV Remote Controller Function described in paragraphs [2779] through [2801] (FIGS. 374 through 394); CD/PC Inter-communicating Function described in paragraphs [2802] through [2826] (FIGS. 413 through 427); PDWR Sound Selecting Function described in paragraphs [2827] through [2863] (FIGS. 428 through 456); Start Up Software Function described in paragraphs [2864] through [2880] (FIGS. 457 through 466); Another Embodiment Of Communication Device **200** described in paragraphs [2881] through [2885] (FIGS. 467a through 467d); Stereo Audio Data Output Function described in paragraphs [2886] through [2905] (FIGS. 468 through 479); Stereo Visual Data Output Function described in paragraphs [2906] through [2925] (FIGS. 480 through 491); Multiple Signal Processing Function described in paragraphs [2926] through [2998] (FIGS. 492 through 529); Positioning System—Pin-pointing Function described in paragraphs [2999] through [3032] (FIGS. 530 through 553); Artificial Satellite Host described in paragraphs [3033] through [3051] (FIGS. 554 through 567); CCD Bar Code Reader Function described in paragraphs [3052] through [3073] (FIGS. 568 through 579); Online Renting Function described in paragraphs [3074] through [3151] (FIGS. 580 through 633); SOS Calling Function described in paragraphs [3152] through [3172] (FIGS. 634 through 645); Input Device described in paragraphs [3173] through [3178] (FIGS. 646 through 650); PC Remote Controlling Function described in paragraphs [3179] through [3214] (FIGS. 651 through 670); PC Remote Downloading Function described in paragraphs [3215] through [3264] (FIGS. 671 through 701); Audiovisual Playback Function described in paragraphs [3265] through [3290] (FIGS. 702 through 716); Audio Playback Function described in paragraphs [3291] through [3315] (FIGS. 717 through 731); Ticket Purchasing Function described in paragraphs [3316] through [3345] (FIGS. 732 through 753); Remote Data Erasing Function described in paragraphs [3346] through [3375] (FIGS. 754 through 774); Business Card Function described in paragraphs [3376] through [3392] (FIGS. 775 through 783); Game Vibrating Function described in paragraphs [3393] through [3403] (FIGS. 784 through 786); Part-time Job Finding Function described in paragraphs [3404] through [3424] (FIGS. 787 through 801); Parking Lot Finding Function described in paragraphs [3425] through [3464] (FIGS. 802 through 832); Parts Upgradable Communication Device described in paragraphs [3465] through [3490] (FIGS. 833a through 833x); On Demand TV Function described in paragraphs [3491] through [3521] (FIGS. 834 through 855); Inter-communicating TV Function described in paragraphs [3522] through [3556] (FIGS. 856 through 882); Display Controlling Function described in paragraphs [3557] through [3574] (FIGS. 883 through 894); Multiple Party Communicating Function described in paragraphs [3575] through [3608] (FIGS. 894a through 917); Display Brightness Controlling Function described in para-

graphs [3609] through [3618] (FIGS. 918 through 923); Multiple Party Pin-pointing Function described in paragraphs [3619] through [3666] (FIGS. 924 through 950f); Digital Camera Function described in paragraphs [3667] through [3694] (FIGS. 951 through 968); Phone Number Linking Function described in paragraphs [3695] through [3718] (FIGS. 968a through 983); Multiple Window Displaying Function described in paragraphs [3719] through [3737] (FIGS. 984 through 995); Mouse Pointer Displaying Function described in paragraphs [3738] through [3775] (FIGS. 996 through 1021); House Item Pin-pointing Function described in paragraphs [3776] through [3935] (FIGS. 1022 through 1152); Membership Administrating Function described in paragraphs [3936] through [3978] (FIGS. 1153 through 1188); Keyword Search Timer Recording Function described in paragraphs [3979] through [4070] (FIGS. 1189 through 1254); Weather Forecast Displaying Function described in paragraphs [4071] through [4112] (FIGS. 1255 through 1288); Multiple Language Displaying Function described in paragraphs [4113] through [4170] (FIGS. 1289 through 1331); Caller's Information Displaying Function described in paragraphs [4171] through [4224] (FIGS. 1332 through 1375); Communication Device Remote Controlling Function (By Phone) described in paragraphs [4225] through [4265] (FIGS. 1394 through 1415); Communication Device Remote Controlling Function (By Web) described in paragraphs [4266] through [4306] (FIGS. 1416 through 1437); Shortcut Icon Displaying Function described in paragraphs [4307] through [4334] (FIGS. 1438 through 1455); Task Tray Icon Displaying Function described in paragraphs [4335] through [4357] (FIGS. 1456 through 1470); Multiple Channel Processing Function described in paragraphs [4358] through [4405] (FIGS. 1471 through 1498); Solar Battery Charging Function described in paragraphs [4406] through [4419] (FIGS. 1499 through 1509); OS Updating Function described in paragraphs [4420] through [4487] (FIGS. 1510 through 1575); Device Managing Function described in paragraphs [4488] through [4505] (FIGS. 1576 through 1587); Automobile Controlling Function described in paragraphs [4506] through [4554] (FIGS. 1588 through 1627); OCR Function described in paragraphs [4555] through [4590] (FIGS. 1628 through 1652); Real-time GPS Function described in paragraphs [4591] through [4660] (FIGS. 1653 through 1712); CCD Video Stabilizing Function described in paragraphs [4661] through [4692] (FIGS. 1713 through 1736); DVD Remote Controlling Function described in paragraphs [4693] through [4731] (FIGS. 1737 through 1757); Dual Frame Buffer Implementing Function described in paragraphs [4732] through [4748] (FIGS. 1758 through 1767); Mouse Pointer Image Auto Changing Function described in paragraphs [4749] through [4762] (FIGS. 1768 through 1774); Dual CCD Camera Function described in paragraphs [4763] through [4783] (FIGS. 1775a through 1786); Radio Tuner Function described in paragraphs [4784] through [4814] (FIGS. 1787 through 1812); Registered Voice Recognizing Function described in paragraphs [4815] through [4854] (FIGS. 1813 through 1842); Host's TV Resolution Converting Function described in paragraphs [4855] through [4884] (FIGS. 1843 through 1864); Voice Shortcut Recognizing Function described in paragraphs [4885] through [4919] (FIGS. 1865 through 1889); Vital Sign Monitoring Function described in paragraphs [4920] through [5009] (FIGS. 1890a through 1954); Three-Dimensional Map described in (FIGS. 2 and 3); Auto Collision Avoiding Function described in (FIGS. 4 through 7); Remote Controlling System described in (FIG. 8a through FIG. 10); Emergency Landing System described in (FIG. 11 through FIG. 12b); Connection

Between Host H And Carrier **300** described in (FIG. 13); 3D Map Data Updating Function described in (FIGS. 16 through 30); Auto Collision Avoiding Function—Other Embodiments described in (FIGS. 31 through 34); Satellite TV Function described in (FIGS. 35 through 50); Wireless Communication Facilitating System described in (FIGS. 51 through 64b); Three-Dimensional Map described in (??); Attached File Emailing Function described in paragraphs [5009.1] through [5009.13] (FIGS. 1955 through 1961); Movie eTicket Function described in paragraphs [5009.14] through [5009.66] (FIGS. 1962 through 2002); Carrier Prepaid eCard Function described in paragraphs [5009.67] through [5009.104] (FIGS. 2003 through 2032); Carrier ePass Function described in paragraphs [5009.105] through [5009.144] (FIGS. 2033 through 2061b); Communication Device **200** Installed In Carrier described in paragraphs [5009.145] and [5009.146] (FIG. 2062); Wireless Communication Facilitating System described in paragraphs [5009.147] through [5009.176] (FIGS. 2063 through 2076b); In-Carrier Notifying Function described in paragraphs [5009.177] through [5009.207] (FIGS. 2077 through 2093); Station Name Notifying Function described in paragraphs [5009.208] through [5009.237] (FIGS. 2094 through 2110); Restaurant eMenu Function described in paragraphs [5009.238] through [5009.280] (FIGS. 2111 through 2144); Geographic Location Recording Function described in paragraphs [5009.281] through [5009.322] (FIGS. 2145 through 2176b); CCD Dictionary Function described in paragraphs [5009.323] through [5009.347] (FIGS. 2177 through 2195b); Schedule Notifying Function described in paragraphs [5009.348] through [5009.374] (FIGS. 2196 through 2215); Customized Device Purchasing System described in paragraphs [5009.375] through [5009.415] (FIGS. 2216 through 2250); Multiple Type TV Program Distributing System described in paragraphs [5009.416] through [5009.446] (FIGS. 2251 through 2274); Multiple TV Screen Displaying Function described in paragraphs [5009.447] through [5009.478] (FIGS. 2275 through 2297); Touch Panel Function described in paragraphs [5009.479] through [5009.504] (FIGS. 2298 through 2315); Communication Device Finding Function described in paragraphs [5009.505] through [5009.516] (FIGS. 2316 through 2322); Carrier Safety Measure Controlling Function described in paragraphs [5009.517] through [5009.551] (FIGS. 2323 through 2342); Product Information Retrieving Function (CCD) described in paragraphs [5009.552] through [5009.580] (FIGS. 2343 through 2360); Product Information Stored Chip Function described in paragraphs [5009.581] through [5009.618] (FIGS. 2361 through 2385); Karaoke Playing Function described in paragraphs [5009.619] through [5009.647] (FIGS. 2386 through 2406); Performing Pattern Identifying Anti-Virus Function described in paragraphs [5009.648] through [5009.670] (FIGS. 2407 through 2421); Continue Enabled Video Game Function described in paragraphs [5009.671] through [5009.693] (FIGS. 2422 through 2436); Resume Enabled Video Game Function described in paragraphs [5009.694] through [5009.716] (FIGS. 2437 through 2451); Signal Forwarding Function described in paragraphs [5009.717] through [5009.745] (FIGS. 2452 through 2472); In-Carrier Auto Implementing Mode Function described in paragraphs [5009.746] through [5009.775] (FIGS. 2473 through 2492); Voice Message Displaying Function described in paragraphs [5009.776] through [5009.796] (FIGS. 2493 through 2503c); Human Toes Displaying Function described in paragraphs [5009.797] through [5009.814] (FIGS. 2504 through 2521); Wrinkles/Muscles Displaying Function described in paragraphs [5009.815] through [5009.856] (FIGS. 2522a through 2552e); Protruded

Body Part Displaying Function described in paragraphs [5009.857] through [5009.876] (FIGS. 2553 through 2566b); Satellite TV Program Displaying Function described in paragraphs [5009.877] through [5009.921] (FIGS. 2567 through 2601);l Definition of Communication Device **200** described in paragraphs [5009.922] and [5009.923] (no drawings); Remote Parameter Setting Function described in paragraphs [5009.924] through [5009.1017] (FIGS. 2602 through 2682); Multiple Sender's Email Address Function described in paragraphs [5009.1018] through [5009.1035] (FIGS. 2683 through 2695); Multiple Phone Number Function described in paragraphs [5009.1036] through [5009.1055] (FIGS. 2696 through 2709); TV Commercial Customizing Function described in paragraphs [5009.1056] through [5009.1085] (FIGS. 2710 through 2732c); Common Video Game Platform Function described in paragraphs [5009.1086] through [5009.1102] (FIGS. 2733 through 2741); Directory Displaying Function described in paragraphs [5009.1103] through [5009.1130] (FIGS. 2742 through 2761); Directory Customizing Function described in paragraphs [5009.1131] through [5009.1186] (FIGS. 2762 through 2807); Host's Directory Customizing Function described in paragraphs [5009.1187] through [5009.1246] (FIGS. 2808 through 2853); Trash Can Function described in paragraphs [5009.1247] through [5009.1295] (FIGS. 2854 through 2895f); Motion Character Displaying Function described in paragraphs [5009.1296] through [5009.1318] (FIGS. 2896 through 2909); Bookmark Displaying Function described in paragraphs [5009.1319] through [5009.1374] (FIGS. 2910 through 2955); CCD/LCD Function described in paragraphs [5009.1375] through [5009.1387] (FIGS. 2956 through 2959b); Pop Up Window Blocking Function described in paragraphs [5009.1388] through [5009.1401] (FIGS. 2960 through 2965); Map Heading Up Function described in paragraphs [5009.1402] through [5009.1421] (FIGS. 2966 through 2976); Copy Once Function described in paragraphs [5009.1422] through [5009.1443] (FIGS. 2977 through 2991); Copy Restricted Software Integrated Data described in paragraphs [5009.1444] through [5009.1457] (FIGS. 2992 through 2998); Folder Sharing Function described in paragraphs [5009.1458] through [5009.1508] (FIGS. 2999 through 3038c); Email Folder Managing Function described in paragraphs [5009.1509] through [5009.1577] (FIGS. 3039 through 3092e); Power On Auto Software Executing Function described in paragraphs [5009.1578] through [5009.1594] (FIGS. 3093 through 3103); Enhanced TV Remote Controlling Function described in paragraphs [5009.1595] through [5009.1639] (FIGS. 3104 through 3137c); 3 CCD Unit Function described in paragraphs [5009.1640] through [5009.1660] (FIGS. 3138 through 3150c); Multiple Direction Scrolling Function described in paragraphs [5009.1661] through [5009.1762] (FIGS. 3151 through 3238); Radio Frequency Soft Handover Function described in paragraphs [5009.1763] through [5009.1793] (FIGS. 3239 through 3262); Inter Com Function described in paragraphs [5009.1794] through [5009.1816] (FIGS. 3263 through 3277c); Website History Recording Function described in paragraphs [5009.1817] through [5009.1870] (FIGS. 3278 through 3324); Motion Picture Thumbnail Displaying Function described in paragraphs [5009.1871] through [5009.1908] (FIGS. 3325 through 3353b); 2D/3D Map Displaying Function described in paragraphs [5009.1909] through [5009.1952] (FIGS. 3354 through 3380b); Remote Schedule Notifying Function described in paragraphs [5009.1953] through [5009.1975] (FIGS. 3381 through 3393); Remote Email Notifying Function described in paragraphs [5009.1976] through [5009.2000] (FIGS. 3394

through 3406); Remote Document Printing Function described in paragraphs [5009.2001] through [5009.2022] (FIGS. 3407 through 3419b); Anti-virus Protection Identifying Function described in paragraphs [5009.2023] through [5009.2043] (FIGS. 3420 through 3431c); Alphanumeric Phone Number Dialing Function described in paragraphs [5009.2044] through [5009.2076] (FIGS. 3432 through 3453b); Automobile License Number Dialing Function described in paragraphs [5009.2077] through [5009.2109] (FIGS. 3454 through 3475b); Point Card Function described in paragraphs [5009.2110] through [5009.2147] (FIGS. 3476 through 3504c); Display Sharing Function described in paragraphs [5009.2148] through [5009.2169] (FIGS. 3505 through 3516); Email Filtering Function described in paragraphs [5009.2170] through [5009.2212] (FIGS. 3517 through 3549); Received Email Auto Sorting Function described in paragraphs [5009.2213] through [5009.2238] (FIGS. 3550 through 3565b); Sent Email Auto Sorting Function described in paragraphs [5009.2239] through [5009.2264] (FIGS. 3566 through 3581b); Country Name Displaying Function described in paragraphs [5009.2265] through [5009.2286] (FIGS. 3582 through 3595); Email Attached File Splitting Function described in paragraphs [5009.2287] through [5009.2300] (FIGS. 3596 through 3603c); Auto TV Starting Function described in paragraphs [5009.2301] through [5009.2329] (FIGS. 3604 through 3623); Enhanced TV Program Replaying Function (Communication Device 200) described in paragraphs [5009.2330] through [5009.2361] (FIGS. 3624 through 3648b); Enhanced TV Program Replaying Function (Host H) described in paragraphs [5009.2362] through [5009.2400] (FIGS. 3649 through 3680b); Enhanced TV Program Replaying Function (Devices A and B) described in paragraphs [5009.2401] through [5009.2440] (FIGS. 3681 through 3712b); Enhanced TV Program Replaying Function (Host H, and Devices A and B) described in paragraphs [5009.2441] through [5009.2491] (FIGS. 3713 through 3754b); TV Commercial Skipping Function described in paragraphs [5009.2492] through [5009.2516] (FIGS. 3755 through 3772); Timer Schedule Auto Changing Function described in paragraphs [5009.2517] through [5009.2542] (FIGS. 3773 through 3789); Remote Alarm Setting Function described in paragraphs [5009.2543] through [5009.2585] (FIGS. 3789a through 3817b); Current Location Non-notifying Function described in paragraphs [5009.2586] through [5009.2612] (FIGS. 3818 through 3833); Device Remotely Locking Function described in paragraphs [5009.2613] through [5009.2644] (FIGS. 3834 through 3857); EZ Macro Function described in paragraphs [5009.2645] through [5009.2668] (FIGS. 3858 through 3873b); Alcohol Level Identifying Function described in paragraphs [5009.2669] through [5009.2694] (FIGS. 3874 through 3889b); Displayed Visual Data Size Modifying Function described in paragraphs [5009.2695] through [5009.2729] (FIGS. 3890 through 3915); Button Size Changing Function described in paragraphs [5009.2730] through [5009.2758] (FIGS. 3916 through 3937); Epayment Sound Selecting Function described in paragraphs [5009.2759] through [5009.2778] (FIGS. 3938 through 3950c); Multiple TV Program Recording Function described in paragraphs [5009.2779] through [5009.2823] (FIGS. 3951 through 3988); TV Program Data Trashcan Function described in paragraphs [5009.2824] through [5009.2856] (FIGS. 3989 through 4010b); Ereceipt Producing Function described in paragraphs [5009.2857] through [5009.2888] (FIGS. 4011 through 4033); Memo Sharing Function described in paragraphs [5009.2889] through [5009.2930] (FIGS. 4034 through 4064); Selected

Function Remotely Freezing Function described in paragraphs [5009.2931] through [5009.2964] (FIGS. 4065 through 4085); Selected Software Remotely Activating Function described in paragraphs [5009.2965] through [5009.2998] (FIGS. 4086 through 4106); Selected Function Remotely Activating Function described in paragraphs [5009.2999] through [5009.3032] (FIGS. 4107 through 4127); Selected Software Remotely Freezing Function described in paragraphs [5009.3033] through [5009.3066] (FIGS. 4128 through 4148); Selected Data Remotely Deleting Function described in paragraphs [5009.3067] through [5009.3100] (FIGS. 4149 through 4169); Web Cash Memory Function described in paragraphs [5009.3101] through [5009.3122] (FIGS. 4170 through 4183b); Keypad Auto Unlocking Function described in paragraphs [5009.3123] through [5009.3145] (FIGS. 4184 through 4199); Voice Recog Sys Auto Unlocking Function described in paragraphs [5009.3146] through [5009.3168] (FIGS. 4200 through 4215); Upgraded Voice Recog Sys Auto Unlocking Function described in paragraphs [5009.3169] through [5009.3192] (FIGS. 4216 through 4231); TV Program Information Displaying Function described in paragraphs [5009.3193] through [5009.3215] (FIGS. 4232 through 4247b); Best Signal Auto Selecting Function described in paragraphs [5009.3216] through [5009.3269] (FIGS. 4248 through 4291); Software Timer Activating Function described in paragraphs [5009.3270] through [5009.3295] (FIGS. 4292 through 4305b); Software Timer Terminating Function described in paragraphs [5009.3296] through [5009.3321] (FIGS. 4306 through 4319b); Software Timer Deleting Function described in paragraphs [5009.3322] through [5009.3347] (FIGS. 4320 through 4333b); TV Phone Recording Function described in paragraphs [5009.3348] through [5009.3381] (FIGS. 4334 through 4358b); Hybrid GPS Function described in paragraphs [5009.3382] through [5009.3421] (FIGS. 4359 through 4381); Elevator Controlling Function described in paragraphs [5009.3422] through [5009.3447] (FIGS. 4382 through 4397); Device Migrating Function described in paragraphs [5009.3448] through [5009.3509] (FIGS. 4398 through 4445b); Cordless Phone Connecting Function described in paragraphs [5009.3510] through [5009.3547] (FIGS. 4446 through 4474b); Cash Deposit Function described in paragraphs [5009.3548] through [5009.3585] (FIGS. 4475 through 4497d); Highway Fee Auto Paying Function described in paragraphs [5009.3586] through [5009.3616] (FIGS. 4498 through 4518f); By Distance Auto Action Function described in paragraphs [5009.3617] through [5009.3639] (FIGS. 4519 through 4532); Emoney Transferring Function described in paragraphs [5009.3640] through [5009.3666] (FIGS. 4533 through 4548c); Coupon Disposing Function described in paragraphs [5009.3667] through [5009.3698] (FIGS. 4549 through 4569); Multiple Device Searching Function described in paragraphs [5009.3699] through [5009.3717] (FIGS. 4570 through 4581b); Battery Meter Notifying Function described in paragraphs [5009.3718] through [5009.3737] (FIGS. 4582 through 4593b); Software Infrared Transmitting Function described in paragraphs [5009.3738] through [5009.3759] (FIGS. 4594 through 4606); Electronic Key Function described in paragraphs [5009.3760] through [5009.3824] (FIGS. 4607 through 4647b); Automobile Status Monitoring Function described in paragraphs [5009.3825] through [5009.3885] (FIGS. 4648 through 4691); Enhanced Business Card Transferring Function described in paragraphs [5009.3886] through [5009.3928] (FIGS. 4692 through 4720c); Removal Media Data Transferring Function described in paragraphs [5009.3929] through [5009.3954]

(FIGS. 4721 through 4737c); Audiovisual Data Sharing Function described in paragraphs [5009.3955] through [5009.3992] (FIGS. 4738 through 4763b); Email Attachment Supplementing Function described in paragraphs [5009.3993] through [5009.4012] (FIGS. 4764 through 4775c); Other Device File Emailing Function described in paragraphs [5009.4013] through [5009.4043] (FIGS. 4776 through 4799b); Slide Authoring Function described in paragraphs [5009.4044] through [5009.4082] (FIGS. 4800 through 4828); Remote/Local Credit Card Transaction Function described in paragraphs [5009.4083] through [5009.4119] (FIGS. 4829 through 4855d); Unread Email Sorting Function described in paragraphs [5009.4120] through [5009.4166] (FIGS. 4856 through 4890); TV Program Replying Function described in paragraphs [5009.4167] through [5009.4200] (FIGS. 4891 through 4914); PC Keyboard Function described in paragraphs [5009.4201] through [5009.4212] (FIGS. 4915 through 4920b); Antenna Mark Displaying Function described in paragraphs [5009.4213] through [5009.4228] (FIGS. 4921 through 4928b); Enhanced Caller ID Displaying Function described in paragraphs [5009.4229] through [5009.4264] (FIGS. 4929 through 4951c); Enhanced Call Waiting Function described in paragraphs [5009.4265] through [5009.4300] (FIGS. 4952 through 4974c); Phonebook Auto Icon Displaying Function described in paragraphs [5009.4301] through [5009.4332] (FIGS. 4975 through 4996); One Click Call Back Function described in paragraphs [5009.4333] through [5009.4357] (FIGS. 4997 through 5014); Phone Conversation Storing Function described in paragraphs [5009.4358] through [5009.4386] (FIGS. 5015 through 5031c); Caller ID Requesting Function described in paragraphs [5009.4387] through [5009.4410] (FIGS. 5032 through 5045c); Phone Call Audio Notifying Function described in paragraphs [5009.4411] through [5009.4433] (FIGS. 5046 through 5059c); Entry Phone Function described in paragraphs [5009.4434] through [5009.4459] (FIGS. 5060 through 5074b); FAX Sending/Receiving Function described in paragraphs [5009.4460] through [5009.4505] (FIGS. 5075 through 5108b1); Other Device's Phone Book Utilizing Function described in paragraphs [5009.4506] through [5009.4536] (FIGS. 5109 through 5128); Multiple Program Executing Function described in paragraphs [5009.4537] through [5009.4564] (FIGS. 5129 through 5148); Removal Medium Operating Function described in paragraphs [5009.4565] through [5009.4601] (FIGS. 5149 through 5178); Removal Medium Audiovisual Data Recording Function described in paragraphs [5009.4602] through [5009.4629] (FIGS. 5178a through 5199); Nearest Printer Selecting Function described in paragraphs [5009.4630] through [5009.4656] (FIGS. 5200 through 5216d); In-Cabin Com Function described in paragraphs [5009.4657] through [5009.4680] (FIGS. 5217 through 5233c); Carrier Current Condition Notifying Function described in paragraphs [5009.4681] through [5009.4710] (FIGS. 5234 through 5251b); Virtual Space Creating Function described in paragraphs [5009.4711] through [5009.4743] (FIGS. 5252 through 5274); Security Camera Function described in paragraphs [5009.4744] through [5009.4778] (FIGS. 5275 through 5295); Remote Camera Controlling Function described in paragraphs [5009.4779] through [5009.4820] (FIGS. 5296 through 5326); Day/Night Camera Function described in paragraphs [5009.4821] through [5009.4851] (FIGS. 5327 through 5346); Multiple Wireless Signal Handover Function described in paragraphs [5009.4852] through [5009.4897] (FIGS. 5347 through 5365); Multiple Tab Web Browsing Function described in

paragraphs [5009.4898] through [5009.4926] (FIGS. 5366 through 5388); Multiple Tab Visual Data Viewing Function described in paragraphs [5009.4927] through [5009.4955] (FIGS. 5389 through 5411); Multiple Tab Document Data Viewing Function described in paragraphs [5009.4956] through [5009.4984] (FIGS. 5412 through 5434); Multiple Tab Email Data Viewing Function described in paragraphs [5009.4985] through [5009.5013] (FIGS. 5435 through 5457); Convenient TV Remote Controlling Function described in paragraphs [5009.5014] through [5009.5034] (FIGS. 5458 through 5471); Form Auto Filling Function described in paragraphs [5009.5035] through [5009.5072] (FIGS. 5472 through 5495e); Hybrid Carrier Function described in paragraphs [5009.5073] through [5009.5105] (FIGS. 5496 through 5522b); Carrier Current Condition Monitoring Function described in paragraphs [5009.5106] through [5009.5141] (FIGS. 5523 through 5546c); Memory Defragmenting Function described in paragraphs [5009.5142] through [5009.5175] (FIGS. 5547 through 5568); Memory Formatting Function described in paragraphs [5009.5176] through [5009.5209] (FIGS. 5569 through 5590); Memory Partitioning Function described in paragraphs [5009.5210] through [5009.5243] (FIGS. 5591 through 5612); TV Phone Pausing Function described in paragraphs [5009.5244] through [5009.5268] (FIGS. 5613 through 5629); Reflecting Object Displaying Function described in paragraphs [5009.5269] through [5009.5294] (FIGS. 5630 through 5648c); Alternative TV Program Receiving Function described in paragraphs [5009.5295] through [5009.5325] (FIGS. 5649 through 5670c); Alternative Radio Program Receiving Function described in paragraphs [5009.5326] through [5009.5356] (FIGS. 5671 through 5692c); Audiovisual Auto Fading Function described in paragraphs [5009.5357] through [5009.5377] (FIGS. 5693 through 5706); Audio Auto Fading Function described in paragraphs [5009.5378] through [5009.5398] (FIGS. 5707 through 5720); Video-In-Video Displaying Function described in paragraphs [5009.5399] through [5009.5431] (FIGS. 5721 through 5747b); Pre-Installed Item Purchasing Function described in paragraphs [5009.5432] through [5009.5470] (FIGS. 5748 through 5775b); Multiple CPU Function described in paragraphs [5009.5471] through [5009.5476] (FIGS. 5776 and 5777); Radio Music Downloading Function described in paragraphs [5009.5477] through [5009.5516] (FIGS. 5778 through 5807); File Auto Saving Function described in paragraphs [5009.5517] through [5009.5559] (FIGS. 5808 through 5837b); TV Tuner Function described in paragraphs [5009.5560] through [5009.5600] (FIGS. 5838 through 5866); GPS Receiver's Log Function described in paragraphs [5009.5601] through [5009.5629] (FIGS. 5867 through 5884b); Remote Room Light Controlling Function described in paragraphs [5009.5630] through [5009.5662] (FIGS. 5885 through 5906b); Remote Kitchen Stove Controlling Function described in paragraphs [5009.5663] through [5009.5695] (FIGS. 5907 through 5928b); Remote Refrigerator Controlling Function described in paragraphs [5009.5696] through [5009.5728] (FIGS. 5929 through 5950b); Remote Washing Machine Controlling Function described in paragraphs [5009.5729] through [5009.5761] (FIGS. 5951 through 5972b); Remote Faucet Controlling Function described in paragraphs [5009.5762] through [5009.5794] (FIGS. 5973 through 5994b); Remote Door Lock Controlling Function described in paragraphs [5009.5795] through [5009.5827] (FIGS. 5995 through 6016b); Remote Air Conditioner Controlling Function described in paragraphs [5009.5828] through [5009.5860] (FIGS. 6017 through 6038b); Remote

Vending Machine Controlling Function described in paragraphs [5009.5861] through [5009.5893] (FIGS. 6039 through 6060b); Remote Video Recorder Controlling Function described in paragraphs [5009.5894] through [5009.5926] (FIGS. 6061 through 6082b); Remote Printer Controlling Function described in paragraphs [5009.5927] through [5009.5959] (FIGS. 6083 through 6104b); Remote Camera Controlling Function described in paragraphs [5009.5960] through [5009.5992] (FIGS. 6105 through 6126b); Remote TV Tuner Controlling Function described in paragraphs [5009.5993] through [5009.6025] (FIGS. 6127 through 6148b); Remote Radio Tuner Controlling Function described in paragraphs [5009.6026] through [5009.6058] (FIGS. 6149 through 6170b); Remote Computer Controlling Function described in paragraphs [5009.6059] through [5009.6091] (FIGS. 6171 through 6192b); Remote Carrier Controlling Function described in paragraphs [5009.6092] through [5009.6124] (FIGS. 6193 through 6214b); Remote Food Processor Controlling Function described in paragraphs [5009.6125] through [5009.6157] (FIGS. 6215 and 6236b); Remote Dryer Controlling Function described in paragraphs [5009.6158] through [5009.6190] (FIGS. 6237 and 6258b); Remote Rice Cooker Controlling Function described in paragraphs [5009.6191] through [5009.6223] (FIGS. 6259 and 6280b); Remote Sound Outputting Device Controlling Function described in paragraphs [5009.6224] through [5009.6256] (FIGS. 6281 and 6302b); Remote Vacuum Cleaner Controlling Function described in paragraphs [5009.6257] through [5009.6289] (FIGS. 6303 and 6324b); Remote FAX Machine Controlling Function described in paragraphs [5009.6290] through [5009.6322] (FIGS. 6325 and 6346b); Remote Copying Machine Controlling Function described in paragraphs [5009.6323] through [5009.6355] (FIGS. 6347 and 6368b); Remote Coffee Maker Controlling Function described in paragraphs [5009.6356] through [5009.6388] (FIGS. 6369 and 6390b); Remote Scanner Controlling Function described in paragraphs [5009.6389] through [5009.6421] (FIGS. 6391 and 6412b); Remote Clothes Iron Controlling Function described in paragraphs [5009.6422] through [5009.6454] (FIGS. 6413 and 6434b); Remote Escalator Controlling Function described in paragraphs [5009.6455] through [5009.6487] (FIGS. 6435 and 6456b); Vending Machine Accessing Function described in paragraphs [5009.6488] through [5009.6527] (FIGS. 6457 through 6485d); Audiovisual Data Shuffling Function described in paragraphs [5009.6528] through [5009.6551] (FIGS. 6486 through 6503b); Unknown File Icon Displaying Function described in paragraphs [5009.6552] through [5009.6575] (FIGS. 6504 through 6521c); Audiovisual Document Producing Function described in paragraphs [5009.6576] through [5009.6601] (FIGS. 6522 through 6539b); Audiovisual Data Searching Function described in paragraphs [5009.6602] through [5009.6626] (FIGS. 6540 through 6558b); Finger Print Log-on Function described in paragraphs [5009.6627] through [5009.6645] (FIGS. 6559 through 6571c); Voice Print Log-on Function described in paragraphs [5009.6646] through [5009.6663] (FIGS. 6572 through 6583c); Finger Print Screen Saver Deactivating Function described in paragraphs [5009.6664] through [5009.6682] (FIGS. 6584 through 6596c); Voice Print Screen Saver Deactivating Function described in paragraphs [5009.6683] through [5009.6700] (FIGS. 6597 through 6608c); Finger Print Folder Accessing Function described in paragraphs [5009.6701] through [5009.6719] (FIGS. 6609 through 6621c); Voice Print Folder Accessing Function described in paragraphs [5009.6720] through [5009.6737] (FIGS. 6622 through 6633c); Finger Print File Accessing

Function described in paragraphs [5009.6738] through [5009.6756] (FIGS. 6634 through 6646c); Voice Print File Accessing Function described in paragraphs [5009.6757] through [5009.6774] (FIGS. 6647 through 6658c); Finger Print Internet Accessing Function described in paragraphs [5009.6775] through [5009.6793] (FIGS. 6659 through 6671c); Voice Print Internet Accessing Function described in paragraphs [5009.6794] through [5009.6811] (FIGS. 6672 through 6683c); Finger Print PC Log-on Function described in paragraphs [5009.6812] through [5009.6838] (FIGS. 6684 through 6703b); Voice Print PC Log-on Function described in paragraphs [5009.6839] through [5009.6864] (FIGS. 6704 through 6722b); Finger Print PC Screen Saver Deactivating Function described in paragraphs [5009.6865] through [5009.6891] (FIGS. 6723 through 6742b); Voice Print PC Screen Saver Deactivating Function described in paragraphs [5009.6892] through [5009.6917] (FIGS. 6743 through 6761b); Finger Print PC Folder Accessing Function described in paragraphs [5009.6918] through [5009.6944] (FIGS. 6762 through 6781b); Voice Print PC Folder Accessing Function described in paragraphs [5009.6945] through [5009.6970] (FIGS. 6782 through 6800b); Finger Print PC File Accessing Function described in paragraphs [5009.6971] through [5009.6997] (FIGS. 6801 through 6820b); Voice Print PC File Accessing Function described in paragraphs [5009.6998] through [5009.7023] (FIGS. 6821 through 6839b); Finger Print PC Internet Accessing Function described in paragraphs [5009.7024] through [5009.7050] (FIGS. 6840 through 6859b); Voice Print PC Internet Accessing Function described in paragraphs [5009.7051] through [5009.7076] (FIGS. 6860 through 6878b); Shock Proof Memory Function described in paragraphs [5009.7077] through [5009.7093] (FIGS. 6879 through 6889b); Remote Audiovisual Device Controlling Function described in paragraphs [5009.7094] through [5009.7133] (FIGS. 6890 through 6916); Direct TV-Audio Phone Switching Function described in paragraphs [5009.7134] through [5009.7157] (FIGS. 6917 through 6932b); Audiovisual Data Downloading Function described in paragraphs [5009.7158] through [5009.7218] (FIGS. 6933 through 6972); Audio Data Downloading Function described in paragraphs [5009.7219] through [5009.7279] (FIGS. 6973 through 7012); Self-Active Encrypted Image Reader Function described in paragraphs [5009.7280] through [5009.7301] (FIGS. 7013 through 7028c); Robot Remote Controlling Function described in paragraphs [5009.7302] through [5009.7371] (FIGS. 7029 through 7071b); Home Page Displaying Function described in paragraphs [5009.7372] through [5009.7396] (FIGS. 7072 through 7090); Multiple OS Operating Function described in paragraphs [5009.7397] through [5009.7442] (FIGS. 7091 through 7130c); Audiovisual Conversation Data Forwarding Function described in paragraphs [5009.7443] through [5009.7465] (FIGS. 7131 through 7146b); Audio Conversation Data Forwarding Function described in paragraphs [5009.7466] through [5009.7488] (FIGS. 7147 through 7162b); Phone Call Auto Forwarding Function described in paragraphs [5009.7489] through [5009.7514] (FIGS. 7163 through 7180c); Wireless Communication Method Switching Function described in paragraphs [5009.7515] through [5009.7535] (FIGS. 7181 through 7194e); Drafted Email Viewing Function described in paragraphs [5009.7536] through [5009.7585] (FIGS. 7195 through 7236); Email Replying Function described in paragraphs [5009.7586] through [5009.7617] (FIGS. 7237 through 7262b); Attached File Editing Function described in paragraphs [5009.7618] through [5009.7649] (FIGS. 7263 through 7288b); Email Audiovisual Data Auto Blocking Function described in para-

graphs [5009.7650] through [5009.7673] (FIGS. 7289 through 7306); HDD Stored TV Program Replaying Function described in paragraphs [5009.7674] through [5009.7695] (FIGS. 7307 through 7322b); Cooking Menu Auto Implementing Function described in paragraphs [5009.7696] through [5009.7722] (FIGS. 7323 through 7343b); Micro Wave Oven Auto Alarm Function described in paragraphs [5009.7723] through [5009.7776] (FIGS. 7344 through 7387b); Oven Temperature Remote Controlling Function described in paragraphs [5009.7777] through [5009.7830] (FIGS. 7388 through 7431c); Audio Amplifying Function described in paragraphs [5009.7831] through [5009.7848] (FIGS. 7432 through 7443b); Calorie Calculating Function described in paragraphs [5009.7849] through [5009.7868] (FIGS. 7444 through 7457b); Sickness Identifying Function described in paragraphs [5009.7869] through [5009.7902] (FIGS. 7458 through 7481b); Weather Hazard Auto Notifying Function described in paragraphs [5009.7903] through [5009.7955] (FIGS. 7482 through 7517d); Phone Call Auto Forwarding Function described in paragraphs [5009.7956] through [5009.7981] (FIGS. 7518 through 7535c); Multiple Massaging Function described in paragraphs [5009.7982] through [5009.8022] (FIGS. 7536 through 7566); Microscope Function described in paragraphs [5009.8023] through [5009.8097] (FIGS. 7567 through 7629); Door Auto Lock/ Unlock Function described in paragraphs [5009.8098] through [5009.8139] (FIGS. 7630 through 7658b); Door Auto Close/Open Function described in paragraphs [5009.8140] through [5009.8181] (FIGS. 7659 through 7687b); Room Light Auto On/Off Function described in paragraphs [5009.8182] through [5009.8223] (FIGS. 7688 through 7716b); Air Conditioner Auto On/Off Function described in paragraphs [5009.8224] through [5009.8265] (FIGS. 7717 through 7745b); Heater Auto On/Off Function described in paragraphs [5009.8266] through [5009.8307] (FIGS. 7746 through 7774b); Faucet Auto On/Off Function described in paragraphs [5009.8308] through [5009.8349] (FIGS. 7775 through 7803b); Sound Outputting Device Auto On/Off Function described in paragraphs [5009.8350] through [5009.8391] (FIGS. 7804 through 7832b); Vein Print Log-on Function described in paragraphs [5009.8392] through [5009.8410] (FIGS. 7833 through 7845c); Vein Print Screen Saver Deactivating Function described in paragraphs [5009.8411] through [5009.8429] (FIGS. 7846 through 7858c); Vein Print Folder Accessing Function described in paragraphs [5009.8430] through [5009.8448] (FIGS. 7859 through 7871c); Vein Print File Accessing Function described in paragraphs [5009.8449] through [5009.8467] (FIGS. 7872 through 7884c); Vein Print Internet Accessing Function described in paragraphs [5009.8468] through [5009.8486] (FIGS. 7885 through 7897c); Vein Print PC Log-on Function described in paragraphs [5009.8487] through [5009.8513] (FIGS. 7898 through 7917b); Vein Print PC Screen Saver Deactivating Function described in paragraphs [5009.8514] through [5009.8540] (FIGS. 7918 through 7937b); Vein Print PC Folder Accessing Function described in paragraphs [5009.8541] through [5009.8567] (FIGS. 7938 through 7957b); Vein Print PC File Accessing Function described in paragraphs [5009.8568] through [5009.8594] (FIGS. 7958 through 7977b); Vein Print PC Internet Accessing Function described in paragraphs [5009.8595] through [5009.8621] (FIGS. 7978 through 7997b); Ringtone Auto Updating Function described in paragraphs [5009.8622] through [5009.8643] (FIGS. 7998 through 8013b); Time Limited Current Location Identifying Function described in paragraphs [5009.8644] through [5009.8673] (FIGS. 8014 through 8035b); In Carrier Message Inserting Function described in

paragraphs [5009.8674] through [5009.8695] (FIGS. 8036 through 8050b); Electric Cable Networking Function described in paragraphs [5009.8696] through [5009.8707] (FIGS. 8051 through 8057); Shoe Sole Pressure Adjusting Function described in paragraphs [5009.8708] through [5009.8741] (FIGS. 8058 through 8080b); Finger Print Removal Media Accessing Function described in paragraphs [5009.8742] through [5009.8762] (FIGS. 8081 through 8095b); Voice Print Removal Media Accessing Function described in paragraphs [5009.8763] through [5009.8783] (FIGS. 8096 through 8110b); Vein Print Removal Media Accessing Function described in paragraphs [5009.8784] through [5009.8804] (FIGS. 8111 through 8125b); Finger Print PC Removal Media Accessing Function described in paragraphs [5009.8805] through [5009.8833] (FIGS. 8126 through 8145b); Voice Print PC Removal Media Accessing Function described in paragraphs [5009.8834] through [5009.8862] (FIGS. 8146 through 8165b); Vein Print PC Removal Media Accessing Function described in paragraphs [5009.8863] through [5009.8891] (FIGS. 8166 through 8185b); Printer Function described in paragraphs [5009.8892] through [5009.8967] (FIGS. 8186 through 8245f); Scanner Function described in paragraphs [5009.8968] through [5009.9016] (FIGS. 8246 through 8284b); Multiple Signal Transferring Function described in paragraphs [5009.9017] through [5009.9205] (FIGS. 8285 through 8453); Free Access Point Function described in paragraphs [5009.9206] through [5009.9245] (FIGS. 8454 through 8482); Partial BCC Email Function described in paragraphs [5009.9246] through [5009.9273] (FIGS. 8483 through 8504b); Noise Reversing Function described in paragraphs [5009.9274] through [5009.9291] (FIGS. 8505 through 8516); Door Status Sensoring Function described in paragraphs [5009.9292] through [5009.9345] (FIGS. 8517 through 8557); Drawer Status Sensoring Function described in paragraphs [5009.9346] through [5009.9399] (FIGS. 8558 through 8598); Window Status Sensoring Function described in paragraphs [5009.9400] through [5009.9453] (FIGS. 8599 through 8639); Curtain Status Sensoring Function described in paragraphs [5009.9454] through [5009.9509] (FIGS. 8640 through 8680); Gate Status Sensoring Function described in paragraphs [5009.9510] through [5009.9563] (FIGS. 8681 through 8721); Stop Watch Function described in paragraphs [5009.9564] through [5009.9584] (FIGS. 8722 through 8736b); Decrementing Time Function described in paragraphs [5009.9585] through [5009.9607] (FIGS. 8737 through 8753b); Energy Efficient Multiple CPU Function described in paragraphs [5009.9608] through [5009.9636] (FIGS. 8754 through 8776b); Content Notifying Function described in paragraphs [5009.9637] through [5009.9681] (FIGS. 8777 through 8809); Virtual Tilting Function described in paragraphs [5009.9682] through [5009.9720] (FIGS. 8810 through 8840); Virtual Vehicle Tilting Function described in paragraphs [5009.9721] through [5009.9758] (FIGS. 8841 through 8871); Device Approach Notifying Function described in paragraphs [5009.9759] through [5009.9801] (FIGS. 8872 through 8904); Clock Alarm Snooze Function described in paragraphs [5009.9802] through [5009.9829] (FIGS. 8905 through 8926); News Auto Outputting Function described in paragraphs [5009.9830] through [5009.9867] (FIGS. 8927 through 8958b); Advertisement Auto Outputting Function described in paragraphs [5009.9868] through [5009.9905] (FIGS. 8959 through 8990b); Online RPG Function described in paragraphs [5009.9906] through [5009.10028] (FIGS. 8991 through 9098b); Inter Device Distance Notifying Function described in paragraphs [5009.10029] through [5009.10065] (FIGS.

9099 through 9126); Link Embedded Motion Picture Displaying Function described in paragraphs [5009.10066] through [5009.10089] (FIGS. 9127 through 9141); Audiovisual Meta Data Producing Function described in paragraphs [5009.10090] through [5009.10128] (FIGS. 9142 through 9171c); Audiovisual Highlight Producing Function described in paragraphs [5009.10129] through [5009.10163] (FIGS. 9172 through 9197); Enhanced Audiovisual Highlight Producing Function described in paragraphs [5009.10164] through [5009.10196] (FIGS. 9198 through 9221); Wireless Power Off Function described in paragraphs [5009.10197] through [5009.10227] (FIGS. 9222 through 9240); Screen Layout Changing Function described in paragraphs [5009.10228] through [5009.10255] (FIGS. 9241 through 9258b); Face Feature Log-on Function described in paragraphs [5009.10256] through [5009.10273] (FIGS. 9259 through 9270c); Face Feature Screen Saver Deactivating Function described in paragraphs [5009.10274] through [5009.10291] (FIGS. 9271 through 9282c); Face Feature Folder Accessing Function described in paragraphs [5009.10292] through [5009.10309] (FIGS. 9283 through 9294c); Face Feature File Accessing Function described in paragraphs [5009.10310] through [5009.10327] (FIGS. 9295 through 9306c); Face Feature Internet Accessing Function described in paragraphs [5009.10328] through [5009.10345] (FIGS. 9307 through 9318c); Face Feature PC Log-on Function described in paragraphs [5009.10346] through [5009.10371] (FIGS. 9319 through 9337b); Face Feature PC Screen Saver Deactivating Function described in paragraphs [5009.10372] through [5009.10397] (FIGS. 9338 through 9356b); Face Feature PC Folder Accessing Function described in paragraphs [5009.10398] through [5009.10423] (FIGS. 9357 through 9375b); Face Feature PC File Accessing Function described in paragraphs [5009.10424] through [5009.10449] (FIGS. 9376 through 9394b); Face Feature PC Internet Accessing Function described in paragraphs [5009.10450] through [5009.10475] (FIGS. 9395 through 9413b); Face Feature Removal Media Accessing Function described in paragraphs [5009.10476] through [5009.10496] (FIGS. 9414 through 9428b); Face Feature PC Removal Media Accessing Function described in paragraphs [5009.10497] through [5009.10524] (FIGS. 9429 through 9448b); Security Formatted Removal Media Function described in paragraphs [5009.10525] through [5009.10545] (FIGS. 9449 through 9463b); Lite Security Formatted Removal Media Function described in paragraphs [5009.10546] through [5009.10568] (FIGS. 9464 through 9480b); Security Formatted Folder Function described in paragraphs [5009.10569] through [5009.10605] (FIGS. 9481 through 9509b); Host Host Security Formatted Folder Function described in paragraphs [5009.10606] through [5009.10631] (FIGS. 9510 through 9528); Email Security Formatted Folder Function described in paragraphs [5009.10632] through [5009.10668] (FIGS. 9529 through 9557b); Host Email Security Formatted Folder Function described in paragraphs [5009.10669] through [5009.10694] (FIGS. 9558 through 9576); Secured Email Sending Function described in paragraphs [5009.10695] through [5009.10726] (FIGS. 9577 through 9599c); Secured Email Receiving Function described in paragraphs [5009.10727] through [5009.10746] (FIGS. 9600 through 9613); Received Email Security Auto Sorting Function described in paragraphs [5009.10747] through [5009.10770] (FIGS. 9614 through 9629b); Secured Email Opening Function described in paragraphs [5009.10771] through [5009.10793] (FIGS. 9630 through 9645b); Secured Email Attached File Opening Function described in paragraphs [5009.10794] through

[5009.10818] (FIGS. 9646 through 9663b); Secured Email Attached File Deleting Function described in paragraphs [5009.10819] through [5009.10845] (FIGS. 9664 through 9679b); Unsafe Email Host Handled Function described in paragraphs [5009.10846] through [5009.10873] (FIGS. 9680 through 9701b); Unsafe Attached File Host Handled Function described in paragraphs [5009.10874] through [5009.10901] (FIGS. 9702 through 9723c); Com Stored Email Viewing Function described in paragraphs [5009.10902] through [5009.10925] (FIGS. 9724 through 9741c); Non-secured Email Forwarding Function described in paragraphs [5009.10926] through [5009.10950] (FIGS. 9742 through 9759b); Electronic Money Transferring Function described in paragraphs [5009.10951] through [5009.10993] (FIGS. 9760 through 9790b); Electronic Money Time Identified Transferring Function described in paragraphs [5009.10994] through [5009.11051] (FIGS. 9791 through 9835b); Electronic Money Repeatedly Transferring Function described in paragraphs [5009.11052] through [5009.11117] (FIGS. 9836 through 9888b); Electronic Money Transfer Canceling Function described in paragraphs [5009.11118] through [5009.11194] (FIGS. 9889 through 9952b); Electronic Money Email Transferring Function described in paragraphs [5009.11195] through [5009.11238] (FIGS. 9953 through 9985c); Money Email Time Identified Transferring Function described in paragraphs [5009.11239] through [5009.11286] (FIGS. 9986 through 10022c); Money Email Repeatedly Transferring Function described in paragraphs [5009.11287] through [5009.11338] (FIGS. 10023 through 10063c); Electronic Money Email Transfer Canceling Function described in paragraphs [5009.11339] through [5009.11405] (FIGS. 10064 through 10119c); Address Book Administrating Function described in paragraphs [5009.11406] through [5009.11451] (FIGS. 10120 through 10152b); File Synchronizing Function described in paragraphs [5009.11452] through [5009.11578] (FIGS. 10153 through 10263b); Folder Synchronizing Function described in paragraphs [5009.11579] through [5009.11671] (FIGS. 10264 through 10342b); Area Dependent Software Activating Function described in paragraphs [5009.11672] through [5009.11702] (FIGS. 10343 through 10366b); Area Dependent Message Displaying Function described in paragraphs [5009.11703] through [5009.11730] (FIGS. 10367 through 10388); Visible Light Schedule Communicating Function described in paragraphs [5009.11731] through [5009.11796] (FIGS. 10389 through 10437b); Visible Light Web Address Communicating Function described in paragraphs [5009.11797] through [5009.11862] (FIGS. 10438 through 10486b); Visible Light Software Program Communicating Function described in paragraphs [5009.11863] through [5009.11928] (FIGS. 10487 through 10535b); Visible Light Restaurant Menu Communicating Function described in paragraphs [5009.11929] through [5009.11994] (FIGS. 10536 through 10584b); Visible Light TV Listing Communicating Function described in paragraphs [5009.11995] through [5009.12060] (FIGS. 10585 through 10633b); Visible Light Movie Listing Communicating Function described in paragraphs [5009.12061] through [5009.12126] (FIGS. 10634 through 10682b); Visible Light Product Advertisement Communicating Function described in paragraphs [5009.12127] through [5009.12192] (FIGS. 10683 through 10731b); Visible Light Message Communicating Function described in paragraphs [5009.12193] through [5009.12258] (FIGS. 10732 through 10780b); Visible Light Visual Clip Communicating Function described in paragraphs [5009.12259] through [5009.12324] (FIGS. 10781 through 10829b); Visible Light Weather Forecast Communicating

Function described in paragraphs [5009.12325] through [5009.12390] (FIGS. 10830 through 10878b); Visible Light News Clip Communicating Function described in paragraphs [5009.12391] through [5009.12456] (FIGS. 10879 through 10927b); Visible Light Map Clip Communicating Function described in paragraphs [5009.12457] through [5009.12522] (FIGS. 10928 through 10976b); File Thumbnail Preview Function described in paragraphs [5009.12523] through [5009.12555] (FIGS. 10977 through 11002b); Taxi Fare Credit Card Payment Function described in paragraphs [5009.12556] through [5009.12632] (FIGS. 11003 through 11067); Taxi Fare Electronic Money Payment Function described in paragraphs [5009.12633] through [5009.12712] (FIGS. 11068 through 11132); Taxi Destination Identifying Function described in paragraphs [5009.12713] through [5009.12783] (FIGS. 11133 through 11194); Taxi Destination Map Displaying Function described in paragraphs [5009.12784] through [5009.12860] (FIGS. 11195 through 11262); QR Code Schedule Communicating Function described in paragraphs [5009.12861] through [5009.12906] (FIGS. 11263 through 11298b); QR Code Web Address Communicating Function described in paragraphs [5009.12907] through [5009.12952] (FIGS. 11299 through 11334b); QR Code Software Program Communicating Function described in paragraphs [5009.12953] through [5009.12998] (FIGS. 11335 through 11370b); QR Code Restaurant Menu Communicating Function described in paragraphs [5009.12999] through [5009.13044] (FIGS. 11371 through 11406b); QR Code TV Listing Communicating Function described in paragraphs [5009.13045] through [5009.13090] (FIGS. 11407 through 11442b); QR Code Movie Listing Communicating Function described in paragraphs [5009.13091] through [5009.13136] (FIGS. 11443 through 11478b); QR Code Product Advertisement Communicating Function described in paragraphs [5009.13137] through [5009.13182] (FIGS. 11479 through 11514b); QR Code Message Communicating Function described in paragraphs [5009.13183] through [5009.13228] (FIGS. 11515 through 11550b); QR Code Visual Clip Communicating Function described in paragraphs [5009.13229] through [5009.13274] (FIGS. 11551 through 11586b); QR Code Weather Forecast Communicating Function described in paragraphs [5009.13275] through [5009.13320] (FIGS. 11587 through 11622b); QR Code News Clip Communicating Function described in paragraphs [5009.13321] through [5009.13366] (FIGS. 11623 through 11658b); QR Code Map Clip Communicating Function described in paragraphs [5009.13367] through [5009.13412] (FIGS. 11659 through 11694b); QR Code Software Activating Function described in paragraphs [5009.13413] through [5009.13458] (FIGS. 11695 through 11730b); RFID Schedule Communicating Function described in paragraphs [5009.13459] through [5009.13508] (FIGS. 11731 through 11770b); RFID Web Address Communicating Function described in paragraphs [5009.13509] through [5009.13558] (FIGS. 11771 through 11810b); RFID Software Program Communicating Function described in paragraphs [5009.13559] through [5009.13608] (FIGS. 11811 through 11850b); RFID Restaurant Menu Communicating Function described in paragraphs [5009.13609] through [5009.13658] (FIGS. 11851 through 11890b); RFID TV Listing Communicating Function described in paragraphs [5009.13659] through [5009.13708] (FIGS. 11891 through 11930b); RFID Movie Listing Communicating Function described in paragraphs [5009.13709] through [5009.13758] (FIGS. 11931 through 11970b); RFID Product Advertisement Communicating Function described in paragraphs [5009.13759] through [5009.13808] (FIGS. 11971 through 12010b); RFID

Message Communicating Function described in paragraphs [5009.13809] through [5009.13858] (FIGS. 12011 through 12050b); RFID Visual Clip Communicating Function described in paragraphs [5009.13859] through [5009.13908] (FIGS. 12051 through 12090b); RFID Weather Forecast Communicating Function described in paragraphs [5009.13909] through [5009.13958] (FIGS. 12091 through 12130b); RFID News Clip Communicating Function described in paragraphs [5009.13959] through [5009.14008] (FIGS. 12131 through 12170b); RFID Map Clip Communicating Function described in paragraphs [5009.14009] through [5009.14058] (FIGS. 12171 through 12210b); RFID Software Activating Function described in paragraphs [5009.14059] through [5009.14108] (FIGS. 12211 through 12250b); RFID Software Auto Activating Function described in paragraphs [5009.14109] through [5009.14158] (FIGS. 12251 through 12290b); Carrier Arrival Time Displaying Function described in paragraphs [5009.14159] through [5009.14283] (FIGS. 12291 through 12401); Multiple Audio Outputting Function described in paragraphs [5009.14284] through [5009.14310] (FIGS. 12402 through 12419); Closest Device Notifying Function described in paragraphs [5009.14311] through [5009.14416] (FIGS. 12420 through 12515); Print Screen Function described in paragraphs [5009.14417] through [5009.14474] (FIGS. 12516 through 12559b); Caller Answering Machine Activating Function described in paragraphs [5009.14475] through [5009.14513] (FIGS. 12560 through 12587); Audiovisual Answering Machine Function described in paragraphs [5009.14514] through [5009.14546] (FIGS. 12588 through 12611); Answering Machine Message Forwarding Function described in paragraphs [5009.14547] through [5009.14607] (FIGS. 12612 through 12657); Area Map Displaying Function described in paragraphs [5009.14608] through [5009.14679] (FIGS. 12658 through 12721b); Road Map Displaying Function described in paragraphs [5009.14680] through [5009.14752] (FIGS. 12722 through 12785b); Email Reading Function described in paragraphs [5009.14753] through [5009.14781] (FIGS. 12786 through 12805c); Stand Alone Email Function described in paragraphs [5009.14782] through [5009.14850] (FIGS. 12806 through 12857b); TV Seamless Viewing Function described in paragraphs [5009.14851] through [5009.14896] (FIGS. 12858 through 12895); Multiple Movable Tab Web Browsing Function described in paragraphs [5009.14897] through [5009.14975] (FIGS. 12896 through 12966); Multiple Movable Tab Visual Data Viewing Function described in paragraphs [5009.14976] through [5009.15054] (FIGS. 12967 through 13037); Multiple Movable Tab Document Data Viewing Function described in paragraphs [5009.15055] through [5009.15133] (FIGS. 13038 through 13108); Multiple Movable Tab Email Data Viewing Function described in paragraphs [5009.15134] through [5009.15212] (FIGS. 13109 through 13179); Lost Com Device Memory Erasing/Rescuing Function described in paragraphs [5009.15213] through [5009.15275] (FIGS. 13180 through 13231c); Lost Com Device Beaconing Function described in paragraphs [5009.15276] through [5009.15353] (FIGS. 13232 through 13296); Area & Country Name Displaying Function described in paragraphs [5009.15354] through [5009.15437] (FIGS. 13297 through 13371); 3D Desktop Function described in paragraphs [5009.15438] through [5009.15536] (FIGS. 13372 through 13457); Carrier Auto Announcing Function described in paragraphs [5009.15537] through [5009.15586] (FIGS. 13458 through 13497b); Virtual Folder Displaying Function described in paragraphs [5009.15587] through [5009.15647] (FIGS. 13498 through 13548b); In-

carrier Location Notifying Function described in paragraphs [5009.15648] through [5009.15703] (FIGS. 13549 through 13595c); Address Map Auto Displaying Function described in paragraphs [5009.15704] through [5009.15771] (FIGS. 13596 through 13650c); Brain Wave Device Controlling Function described in paragraphs [5009.15772] through [5009.15806] (FIGS. 13651 through 13679b); Brain Wave Sentence Composing Function described in paragraphs [5009.15807] through [5009.15829] (FIGS. 13680 through 13696); Wheel Standing Function described in paragraphs [5009.15830] through [5009.15858] (FIGS. 13697 through 13719); Robot Body Balancing Function described in paragraphs [5009.15859] through [5009.15905] (FIGS. 13720 through 13760); Robot Leg Balancing Function described in paragraphs [5009.15906] through [5009.15952] (FIGS. 13761 through 13801); Robot Head Balancing Function described in paragraphs [5009.15953] through [5009.15999] (FIGS. 13802 through 13842); Robot Upper Body Balancing Function described in paragraphs [5009.16000] through [5009.16045] (FIGS. 13843 through 13883); Digital Television Function described in paragraphs [5009.16046] through [5009.16075] (FIGS. 13884 through 13906); Total Price Calculating Function described in paragraphs [5009.16076] through [5009.16166] (FIGS. 13907 through 13985c); Brain Wave Carrier Controlling Function described in paragraphs [5009.16167] through [5009.16202] (FIGS. 13986 through 14015b); Electronic Billboard Controlling Function described in paragraphs [5009.16203] through [5009.16323] (FIGS. 14016 through 14123e); Common Phone Number Function described in paragraphs [5009.16324] through [5009.16424] (FIGS. 14124 through 14212c); Hybrid Common Phone Number Function described in paragraphs [5009.16425] through [5009.16525] (FIGS. 14213 through 14301c); Ringtone Volume Auto Adjusting Function described in paragraphs [5009.16526] through [5009.16547] (FIGS. 14302 through 14317b); Ringtone Type Auto Selecting Function described in paragraphs [5009.16548] through [5009.16575] (FIGS. 14318 through 14339b); Television Chatting Function described in paragraphs [5009.16576] through [5009.16650] (FIGS. 14340 through 14405); Device Battery Charging Function described in paragraphs [5009.16651] through [5009.16726] (FIGS. 14406 through 14471b); Hybrid Battery Solar Operating Function described in paragraphs [5009.16727] through [5009.16829] (FIGS. 14472 through 14561); Backup Solar Battery Operating Function described in paragraphs [5009.16830] through [5009.16932] (FIGS. 14562 through 14651); Hybrid Access Point Function described in paragraphs [5009.16933] through [5009.17169] (FIGS. 14652 through 14878g); Earphone Location Identifying Function described in paragraphs [5009.17170] through [5009.17266] (FIGS. 14879 through 14961); Microphone Location Identifying Function described in paragraphs [5009.17267] through [5009.17355] (FIGS. 14962 through 15036); Event Triggered Auto Audiovisual Recording Function described in paragraphs [5009.17356] through [5009.17402] (FIGS. 15037 through 15072b); Event Triggered Auto Audio Recording Function described in paragraphs [5009.17403] through [5009.17449] (FIGS. 15073 through 15108b); Audiovisual Message Bulk Transferring Function described in paragraphs [5009.17450] through [5009.17501] (FIGS. 15109 through 15150b); Multiple Party Conversing Function described in paragraphs [5009.17502] through [5009.17670] (FIGS. 15151 through 15299); Window Monitoring Function described in paragraphs [5009.17671] through [5009.17700] (FIGS. 15300 through 15321b); Window Status Monitoring Function described in paragraphs [5009.17701] through [5009.17730]

(FIGS. 15322 through 15343b); Door Monitoring Function described in paragraphs [5009.17731] through [5009.17760] (FIGS. 15344 through 15365b); Door Monitoring Function described in paragraphs [5009.17761] through [5009.17790] (FIGS. 15366 through 15387b); Push-To-Talk Function described in paragraphs [5009.17791] through [5009.18008] (FIGS. 15388 through 15586cPush-To-T); Door Open Monitoring Function described in paragraphs [5009.18009] through [5009.18065] (FIGS. 15587 through 15633b); Window Open Monitoring Function described in paragraphs [5009.18066] through [5009.18122] (FIGS. 15634 through 15680b); Lock Open Monitoring Function described in paragraphs [5009.18123] through [5009.18179] (FIGS. 15681 through 15727b); Destination Proceeding Function described in paragraphs [5009.18180] through [5009.18265] (FIGS. 15728 through 15803d); Driver's Eye Monitoring Safety Function described in paragraphs [5009.18266] through [5009.18316] (FIGS. 15804 through 15845); Driver's Head Monitoring Safety Function described in paragraphs [5009.18317] through [5009.18365] (FIGS. 15846 through 15885); Drawer Open Monitoring Function described in paragraphs [5009.18366] through [5009.18422] (FIGS. 15886 through 15932b); Curtain Open Monitoring Function described in paragraphs [5009.18423] through [5009.18479] (FIGS. 15933 trough 15979b); Gate Open Monitoring Function described in paragraphs [5009.18480] through [5009.18536] (FIGS. 15980 through 16026b); Faucet Open Monitoring Function described in paragraphs [5009.18537] through [5009.18593] (FIGS. 16027 through 16073b); Hybrid Refrigerator Function described in paragraphs [5009.18594] through [5009.18695] (FIGS. 16074 through 16159b); Multiple Purpose Chamber Function described in paragraphs [5009.18696] through [5009.18869] (FIGS. 16160 through 16312c); Audiovisual Quality Auto Adjusting Function described in paragraphs [5009.18870] through [5009.18930] (FIGS. 16313 through 16363b); Audio Quality Auto Adjusting Function described in paragraphs [5009.18931] through [5009.18991] (FIGS. 16364 through 16414b); TV Phone Quality Auto Adjusting Function described in paragraphs [5009.18992] through [5009.19100] (FIGS. 16415 through 16512); Voice Phone Quality Auto Adjusting Function described in paragraphs [5009.19101] through [5009.19209] (FIGS. 16513 through 16610); Television Related Audiovisual Downloading Function described in paragraphs [5009.19210] through [5009.19299] (FIGS. 16611 through 16687); Radio Related Audio Downloading Function described in paragraphs [5009.19300] through [5009.19389] (FIGS. 16688 through 16764); Header Displaying Function described in paragraphs [5009.19390] through [5009.19464] (FIG. 16765 through FIG. 16826b); Footer Displaying Function described in paragraphs [5009.19465] through [5009.19539] (FIG. 16827 through FIG. 16888b); Location Scheduled Notifying Function described in paragraphs [5009.19540] through [5009.19602] (FIG. 16889 through FIG. 16941e); Zone Leaving Notifying Function described in paragraphs [5009.19603] through [5009.19675] (FIG. 16942 through FIG. 17005d); Zone Entering Notifying Function described in paragraphs [5009.19676] through [5009.19748] (FIG. 17006 through FIG. 17069d); Power Off Notifying Function described in paragraphs [5009.19749] through [5009.19794] (FIG. 17070 through FIG. 17106d); Power On Notifying Function described in paragraphs [5009.19795] through [5009.19840] (FIG. 17107 through FIG. 17143d); Security Alarm On Notifying Function described in paragraphs [5009.19841] through [5009.19886] (FIG. 17144 through FIG. 17180d); Security Alarm Off Notifying Function described in para-

graphs [5009.19887] through [5009.19932] (FIG. 17181 through FIG. 17217d); Email Transfer Notifying Function described in paragraphs [5009.19933] through [5009.19978] (FIG. 17218 through FIG. 17254d); Email Reception Notifying Function described in paragraphs [5009.19979] through [5009.20024] (FIG. 17255 through FIG. 17291d); Making Phone Call Notifying Function described in paragraphs [5009.20025] through [5009.20070] (FIG. 17292 through FIG. 17328d); Phone Call Reception Notifying Function described in paragraphs [5009.20071] through [5009.20116] (FIG. 17329 through FIG. 17365d); Key Pressed Notifying Function described in paragraphs [5009.20117] through [5009.20162] (FIG. 17366 through FIG. 17402d); Software Activation Notifying Function described in paragraphs [5009.20163] through [5009.20208] (FIG. 17403 through FIG. 17439d); Document Opening Notifying Function described in paragraphs [5009.20209] through [5009.20254] (FIG. 17440 through FIG. 17476d); Specified Event Notifying Function described in paragraphs [5009.20255] through [5009.20315] (FIG. 17477 through FIG. 17527d); Television Phone Auto Backup Function described in paragraphs [5009.20316] through [5009.20447] (FIG. 17528 through FIG. 17645b); File Auto Saving Function described in paragraphs [5009.20448] through [5009.20495] (FIG. 17646 through FIG. 17678b); File Compressing Function described in paragraphs [5009.20496] through [5009.20559] (FIG. 17679 through FIG. 17727e); Multiple Phone Number Billing Function described in paragraphs [5009.20560] through [5009.20609] (FIG. 17728 through FIG. 17771); Multiple Device Door Unlocking Function described in paragraphs [5009.20610] through [5009.20685] (FIG. 17772 through FIG. 17832c); Multiple Device Door Locking Function described in paragraphs [5009.20686] through [5009.20761] (FIG. 17833 through FIG. 17893c); Phone Call Making Log Recording Function described in paragraphs [5009.20762] through [5009.20815] (FIG. 17894 through FIG. 17938d); Phone Call Receiving Log Recording Function described in paragraphs [5009.20816] through [5009.20867] (FIG. 17939 through FIG. 17981d); Phone Call Making Log Exporting Function described in paragraphs [5009.20868] through [5009.20917] (FIG. 17982 through FIG. 18022d); Phone Call Receiving Log Exporting Function described in paragraphs [5009.20918] through [5009.20967] (FIG. 18023 through FIG. 18063d); Phone Call Making Log Synchronizing Function described in paragraphs [5009.20968] through [5009.21021] (FIG. 18064 through FIG. 181060; Phone Call Receiving Log Synchronizing Function described in paragraphs [5009.21022] through [5009.21075] (FIG. 18107 through FIG. 181490; 3D Advertisement Displaying Function described in paragraphs [5009.21076] through [5009.21217] (FIG. 18150 through FIG. 18277); Audiovisual Location Capability Function described in paragraphs [5009.21218] through [5009.21276] (FIG. 18278 through FIG. 18325c); Location Audio Notifying Function described in paragraphs [5009.21277] through [5009.21319] (FIG. 18326 through FIG. 18359b); Answering Machine Location Recording Function described in paragraphs [5009.21320] through [5009.21388] (FIG. 18360 through FIG. 18417e); Visual Phone File Sharing Function described in paragraphs [5009.21389] through [5009.21526] (FIG. 18418 through FIG. 18540b); Visual Phone Magnifying Function described in paragraphs [5009.21527] through [5009.21629] (FIG. 18541 through FIG. 18631); Multiple Home Page Displaying Function described in paragraphs [5009.21630] through [5009.21700] (FIG. 18632 through FIG. 18693b FIG. 18632 through FIG. 18693b); Multiple Visual Phone Party Location

Identifying Function described in paragraphs [5009.21701] through [5009.21796] (FIG. 18694 through FIG. 18778g); Individual Party Conversation Replaying Function described in paragraphs [5009.21797] through [5009.21962] (FIG. 18779 through FIG. 18929d); Multiple Phone Notifying Function described in paragraphs [5009.21963] through [5009.22050] (FIG. 18930 through FIG. 19004i); Multiple Phone Dial Tone Function described in paragraphs [5009.22051] through [5009.22160] (FIG. 19005 through FIG. 191010; Multiple Phone New Party Joining Function described in paragraphs [5009.22161] through [5009.22276] (FIG. 19102 through FIG. 19206j); Music Property Setting Function described in paragraphs [5009.22277] through [5009.22302] (FIG. 19207 through FIG. 19226b); Fore/Background Audio Recording Function described in paragraphs [5009.22303] through [5009.22334] (FIGS. 19227 through 19248); Email Address Phone Calling Function described in paragraphs [5009.22335] through [5009.22392] (FIGS. 19249through 19295c); Night Vision Displaying Carrier Function described in paragraphs [5009.22393] through [5009.22501] (FIGS. 19296 through 19386b); Phone Number Email Function described in paragraphs [5009.22502] through [5009.22561] (FIGS. 19387 through 19436c); No-Answer Auto Emailing Function described in paragraphs [5009.22562] through [5009.22634] (FIGS. 19437 through 19499e); Linked Page Auto Downloading Function described in paragraphs [5009.22635] through [5009.22662] (FIGS. 19500 through 19519); Folder Auto Hiding Function described in paragraphs [5009.22663] through [5009.22692] (FIGS. 19520 through 19543); Folder Time Defined Hiding Function described in paragraphs [5009.22693] through [5009.22746] (FIGS. 19544 through 19591); Folder Time Defined Revealing Function described in paragraphs [5009.22747] through [5009.22800] (FIGS. 19592 through 19639); Common Phone Number Changing Function described in paragraphs [5009.22801] through [5009.22829] (FIGS. 19640 through 19658c; Common Email Address Changing Function described in paragraphs [5009.22830] through [5009.22858] (FIGS. 19659 through 19677c); Multiple Incrementing Counter Function described in paragraphs [5009.22859] through [5009.22896] (FIGS. 19678 through 19709); Multiple Decrementing Counter Function described in paragraphs [5009.22897] through [5009.22934] (FIGS. 19710 through 19741); Multiple Alarm Clock Function described in paragraphs [5009.22935] through [5009.22984] (FIGS. 19742 through 19783); Alarm Clock Current Location Notifying Function described in paragraphs [5009.22985] through [5009.23022] (FIG. 19784 through FIG. 19815b); Camcorder Auto Time Adjusting Function described in paragraphs [5009.23023] through [5009.23047] (FIG. 19816 through FIG. 19833b); Location Identified Device Information Displaying Function described in paragraphs [5009.23048] through [5009.23098] (FIG. 19834 through FIG. 19875b); Folder Message Displaying Function described in paragraphs [5009.23099] through [5009.23126] (FIG. 19876 through FIG. 19897); Folder Audiovisual Outputting Function described in paragraphs [5009.23127] through [5009.23154] (FIG. 19898 through FIG. 19919); Pistol Monitoring Function described in paragraphs [5009.23155] through [5009.23226] (FIG. 19920 through FIG. 19983b); Earthquake Auto Locking Function described in paragraphs [5009.23227] through [5009.23264] (FIG. 19984 through FIG. 20013); Television Resolution Auto Changing Function described in paragraphs [5009.23265] through [5009.23290] (FIG. 20014 through FIG. 20033); Shortcut Auto Creating Function described in paragraphs [5009.23291] through [5009.23312] (FIG. 20034 through

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FIG. 20049); Auto Zooming Function described in paragraphs [5009.23313] through [5009.23332] (FIG. 20050 through FIG. 20063b); Oxygen Tank Function described in paragraphs [5009.23333] through [5009.23384] (FIG. 20064 through FIG. 20107); In Carrier Server Function described in paragraphs [5009.23385] through [5009.23430] (FIG. 20108 through FIG. 20146); Silent Mode Auto Subtitle Displaying Function described in paragraphs [5009.23431] through [5009.23454] (FIG. 20147 through FIG. 20164b); Silent Mode Auto Answerphone Message Displaying Function described in paragraphs [5009.23455] through [5009.23476] (FIG. 20165 through FIG. 20180b); Midnight Auto Downloading Function described in paragraphs [5009.23477] through [5009.23498] (FIG. 20181 through FIG. 20196); and Shortcut Link Auto Updating Function described in paragraphs [5009.23499] through [5009.23522] (FIG. 20197 through FIG. 20214).

The invention claimed is:

1. A communication device comprising:
a microphone;
a speaker;
an input device;
a display;
an antenna;
a voice communication implementer, wherein voice communication is implemented by sending and receiving audio data via said antenna;
a ringing mode implementer, wherein a ringing mode is implemented, wherein audio data is enabled to be output from said speaker including a specific audio data which is output upon receiving phone call;
a silent mode implementer, wherein a silent mode is implemented, wherein audio data is disabled to be output from said speaker including said specific audio data which is output upon receiving phone call; and
an answering machine implementer, wherein a caller's message audio data which is the audio data indicating a caller's voice message addressed to the user of said communication device is stored;
a caller's information displaying implementer, wherein a personal information regarding the caller of incoming call is processed to be displayed;
wherein if said communication device is identified to be under said ringing mode, said caller's message audio data is replayed and output from said speaker; and
wherein if said communication device is identified to be under said silent mode, said caller's message audio data is converted to text data and displayed on said display.

2. The communication device of claim 1, wherein said communication device is a handheld device.

3. The communication device of claim 1, wherein said input device includes is a key pad.

4. The communication device of claim 1, wherein said communication device further comprises a camera.

5. The communication device of claim 1, wherein said communication device further comprises a short range wireless signal sending/receiving device.

6. The communication device of claim 1, wherein said communication device further comprises a data storing device.

7. A system comprising:
a communication device comprising a microphone, a speaker, an input device, a display, and an antenna;
a voice communication implementer, wherein voice communication is implemented by sending and receiving audio data via said antenna;

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a ringing mode implementer, wherein a ringing mode is implemented, wherein audio data is enabled to be output from said speaker including a specific audio data which is output upon receiving phone call;
a silent mode implementer, wherein a silent mode is implemented, wherein audio data is disabled to be output from said speaker including said specific audio data which is output upon receiving phone call; and
an answering machine implementer, wherein a caller's message audio data which is the audio data indicating a caller's voice message addressed to the user of said communication device is stored;
a caller's information displaying implementer, wherein a personal information regarding the caller of incoming call is processed to be displayed;
wherein if said communication device is identified to be under said ringing mode, said caller's message audio data is replayed and output from said speaker; and
wherein if said communication device is identified to be under said silent mode, said caller's message audio data is converted to text data and displayed on said display.

8. The system of claim 7, wherein said communication device is a handheld device.

9. The system of claim 7, wherein said input device includes is a key pad.

10. The system of claim 7, wherein said communication device further comprises a camera.

11. The system of claim 7, wherein said communication device further comprises a short range wireless signal sending/receiving device.

12. The system of claim 7, wherein said communication device further comprises a data storing device.

13. A method for a communication device comprising a microphone, a speaker, an input device, a display, and an antenna, said method comprising:
a voice communication implementing step, wherein voice communication is implemented by sending and receiving audio data via said antenna;
a ringing mode implementing step, wherein a ringing mode is implemented, wherein audio data is enabled to be output from said speaker including a specific audio data which is output upon receiving phone call;
a silent mode implementing step, wherein a silent mode is implemented, wherein audio data is disabled to be output from said speaker including said specific audio data which is output upon receiving phone call; and
an answering machine implementing step, wherein a caller's message audio data which is the audio data indicating a caller's voice message addressed to the user of said communication device is stored;
a caller's information displaying implementing step, wherein a personal information regarding the caller of incoming call is processed to be displayed;
wherein if said communication device is identified to be under said ringing mode, said caller's message audio data is replayed and output from said speaker; and
wherein if said communication device is identified to be under said silent mode, said caller's message audio data is converted to text data and displayed on said display.

14. The method of claim 13, wherein said communication device is a handheld device.

15. The method of claim 13, wherein said input device includes is a key pad.

16. The method of claim 13, wherein said communication device further comprises a camera.

17. The method of claim **13**, wherein said communication device further comprises a short range wireless signal sending/receiving device.

18. The method of claim **13**, wherein said communication device further comprises a data storing device.

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